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A Report of the Boylston St. Zoning Study - Street Improvements Subcommittee to The Boston Redevelopment Authority

March 3, 1987

BOYLSTON ST. IMPROVEMENTS STUDY

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Source: Looking West, Boston, Mass.



Task Outline for Boylston St. Improvement Guidelines

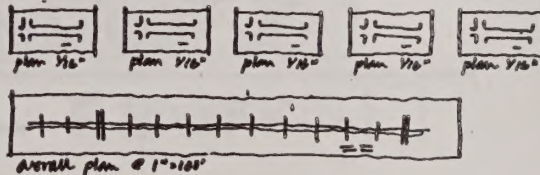
BOYLSTON ST. IMPROVEMENT'S STUDY

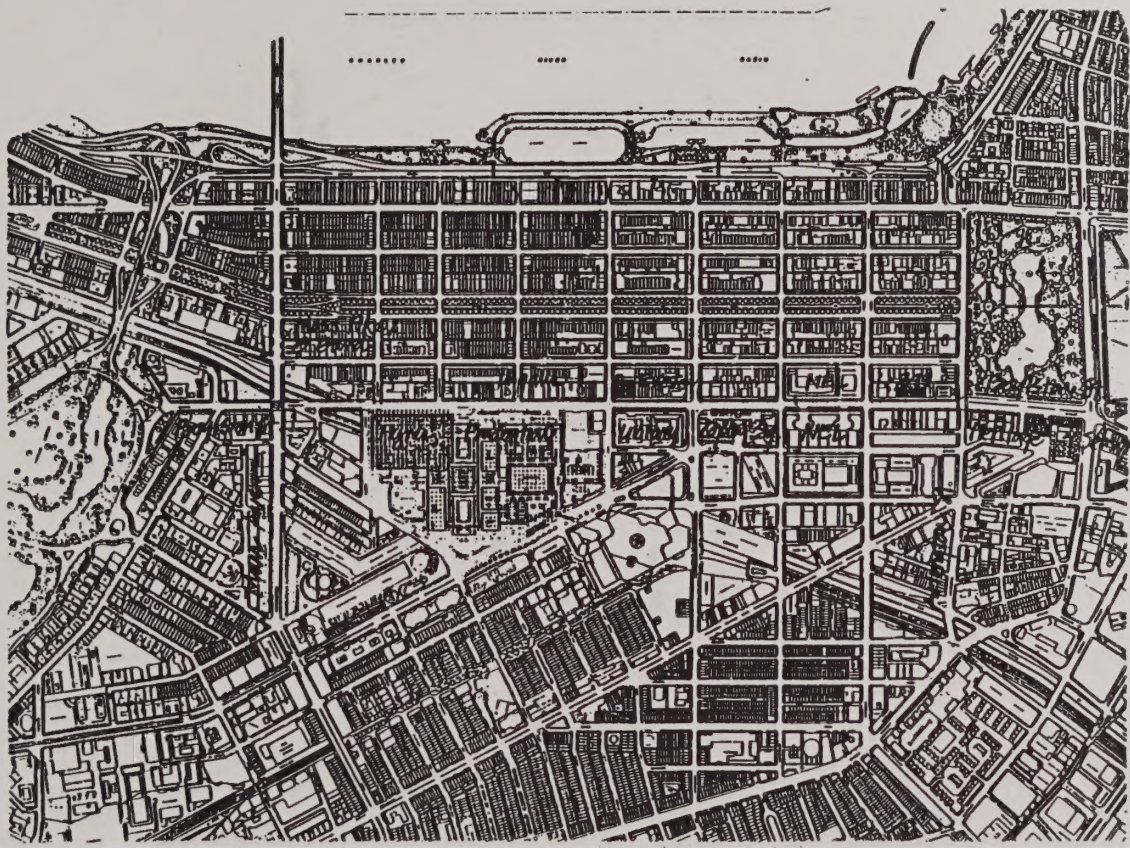
TASK OUTLINE for BOYLSTON ST. IMPROVEMENTS STUDYI. Design base preparation / documentationproducts:notes:A. Obtain current survey information for Boylston St.

1. Obtain available City base maps
2. Obtain available utility base maps
 - sewers, gas & water
 - electric, telephone, street lighting, traffic signals
3. Obtain current site survey from Boylston St. developers
 - plans of recently completed construction projects:
 - One Exchange Place
 - 399 Boylston
 - plans of projects under construction
 - Hyman Convention Center
 - Ingalls building
 - New England Life
 - surveys of projects in design / planning stages
 - Copley Square
 - Prudential Center
 - Public Library
 - Mass Pike Improvements / E. End Studies
 - MSTA Green line improvements

B. Design Base Documentation

1. Draft block by block plan @ $1/16" = 1'-0"$ scale
2. Draft composite overall street plan @ $1" = 100'$ scale
3. Verify design base by field survey as req'd.





**PRUDENTIAL CENTER
DEVELOPMENT**
BOSTON

TSAN/OK ARCHITECTS
PARK STREET ARCHITECTS, INC.
100 STATE STREET & CLARK STREET, INC.

URBAN CONTEXT

Current Development

Recently Completed

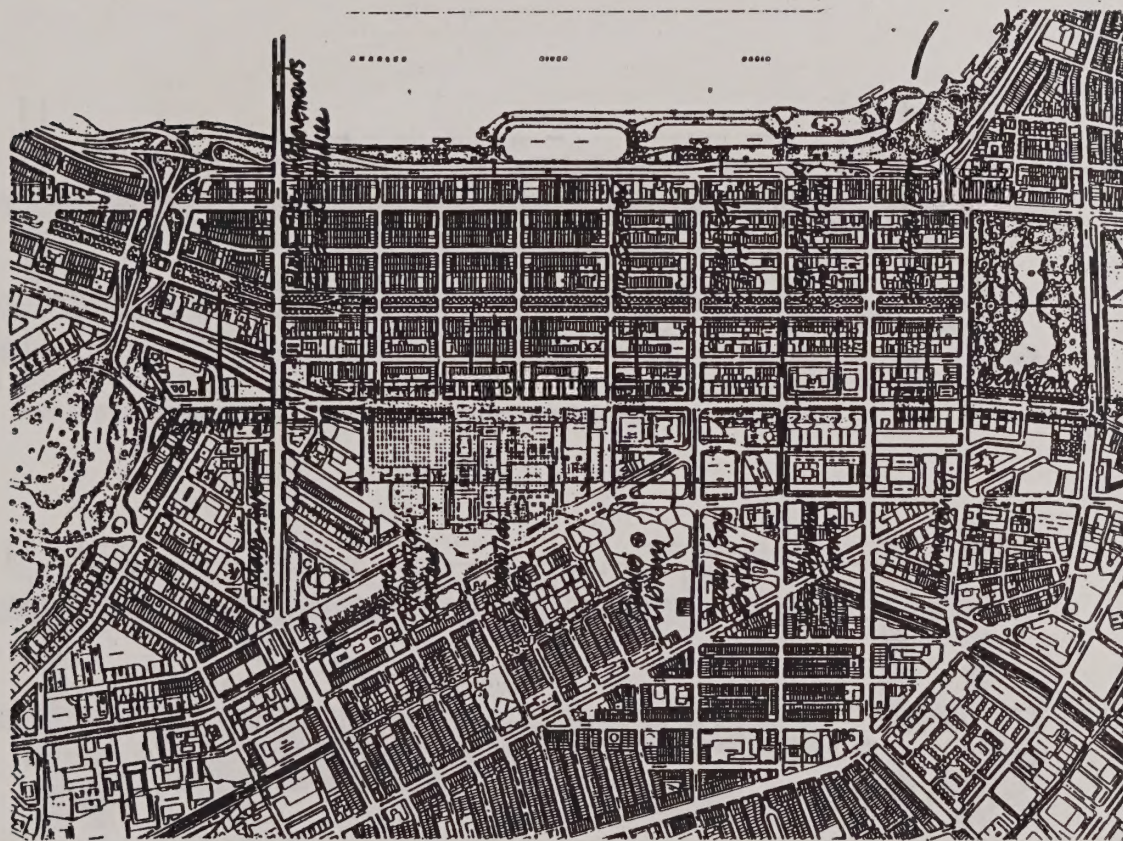
Under Construction

Design / Planning

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BOYLSTON ST. IMPROVEMENTS STUDY

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**PRUDENTIAL CENTER
DEVELOPMENT**
BOSTON

TEARROK ARCHITECTS
THE PRUDENTIAL CENTER, INC.
PRUDENTIAL, BOSTON & CAMBRIDGE, INC.

URBAN CONTEXT
Current Surveys



Recently Completed
Under Construction
Design / Planning

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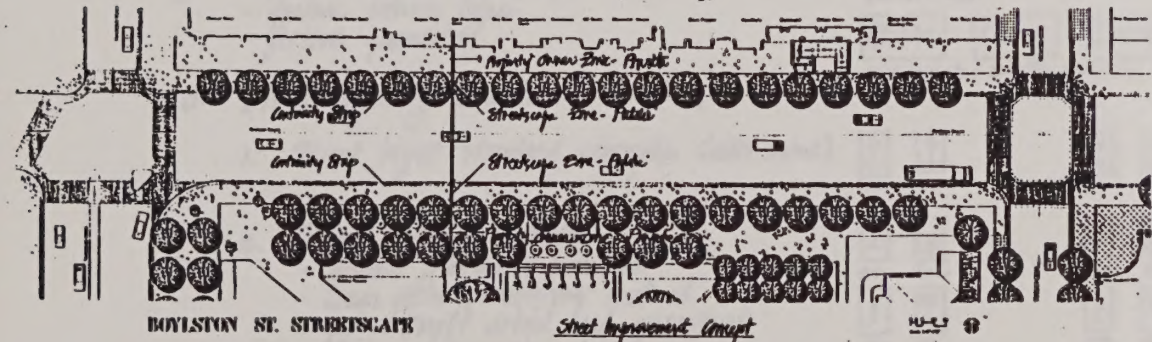
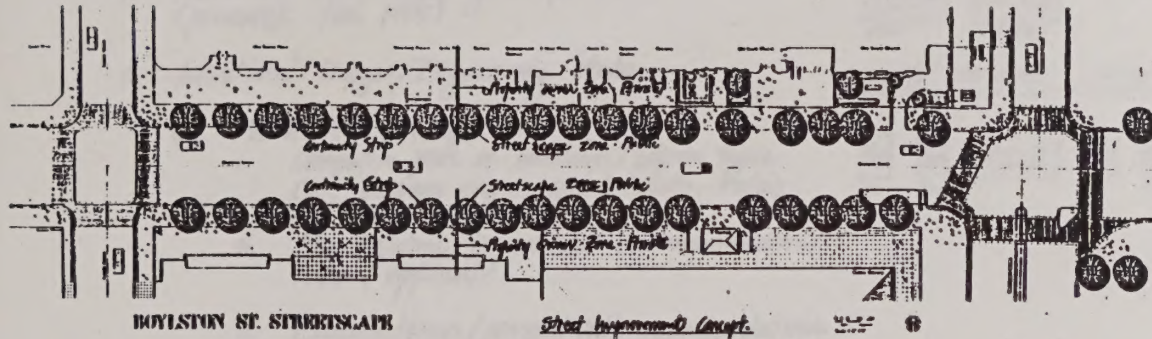
Design Base Plan Example (block by block)

scale 1/16" = 1'-0"

A. Information to be included:

1. Street width, road centerline
2. Assumed location of public R.O.W. line
3. Curb location and curb cuts
4. sidewalk width, materials, scoring pattern of pavement
5. face of building location - profile / outline
 - building entrances, window patterns
 - overhead projection
6. surface features
 - streetlights
 - traffic signals
 - manholes, utility vaults, vents and grates, drainage inlets and related structures
 - utility valves & boxes, fire hydrants
 - parking meters, street signs
 - temporary structures and other amenities
7. underground utilities and obstructions
 - known utility distribution systems
 - basement vaults, access ways
 - MISTA structures
8. Business name / occupancy

B. Reproducible mylar design base



II. Preparation of Preliminary Street Improvement Guidelines (Schematic Design)

A. Street Lighting and Accessories

1. Preliminary Street Lighting Concept
(presented Fall 1985)

2. Additional Design/Engineering Studies

a. Photometric Studies

1. Computer plots of luminaires / source types
(i.e., mercury vapor, metal halide, etc.)2. City Lighting Department recommendations /
reliant approval

3. Manufacturers / consultants recommendations

b. Street Lighting Plans (Preliminary)

- fixture layout / spacing
- fixture source type
- fixture quantity

c. Street Lighting Details (Preliminary)

1. Street light standard examples (color xerox)

2. Street Lighting Details

- overall profile of standard
- base detail, mounting method
- pole / shaft detail and connections
- fixture / luminaire details

products

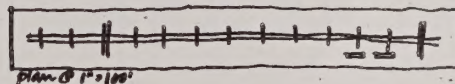
notes



20'-10" MH quad

20'-10" MH dbl.

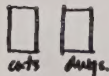
17'-2" MH single



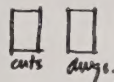
d. Manufacturers Data Sheets

- catalogue cuts
- shop drawings

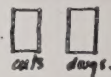
20'-10" MH quad



20'-10" MH dbl



17'-2" MH single



e. Preliminary Street Lighting Specifications



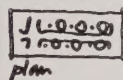
f. Preliminary Cost Estimate



3. Additional Street Lighting Options and Accessories

a. Seasonal Tree Lighting Options

- (receptacles in tree wells)
- details, examples
- schematic electrical distribution



b. Festive / Seasonal Banners

(see graphics and signage - page 13)

c. Hanging Baskets

(see landscape options - page 11)

B. Continuity Strip and Crosswalks:

1. Preliminary Continuity Strip and Crosswalk Concept (presented Fall 1985)

2. Additional Design Studies

a. Continuity Strip/Crosswalk Paving options

1. paving examples (color xerox)

2. paving material options / samples
- size, texture, color studies

3. paving pattern and crosswalk configuration studies

b. Paving details

- detail section, enlargement plans
- special conditions / adjustments

c. Paving mockups

d. Preliminary Specifications

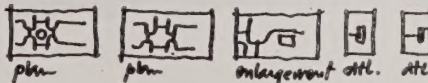
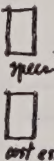
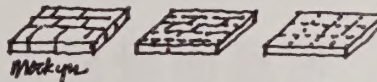
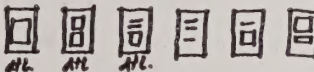
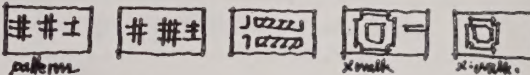
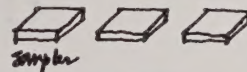
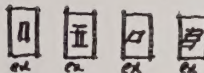
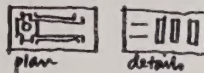
e. Preliminary Cost Estimate

3. Crosswalk / Intersection Configuration Options

a. Relocate curbs and pavement configurations at intersections to provide shorter pedestrian crossings; shadow parallel parking

products

notes

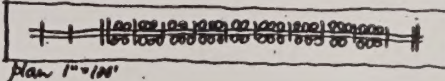
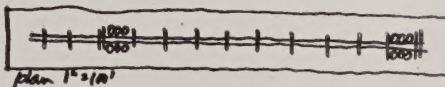
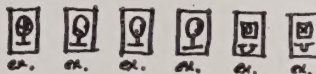
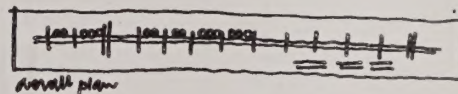
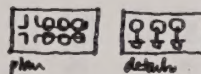


C. Street Tree Planting and Tree Grates

1. Preliminary Street Tree Planting Concept (presented Fall 1985)
2. Additional Design Studies
 - a. Research suitable street tree species
 1. Obtain recommendations and opinions
 2. Establish criteria
 - adaptability / indigenous
 - availability / cost
 - b. Inventory existing and proposed (by other developers) trees on overall base plan
 1. Identify species, caliper, condition and other characteristics of each tree
 2. Determine suitability, desirability of existing trees based on established criteria
 - c. Design examples of suitable tree species and tree grates
 - d. Design Studies
 1. Street Tree planting plan options / schemes
 - monoculture (single species)
 - block variation
 - color accents at gateways
 2. Species, caliper, spacing, quantity

products

notes



e. Street Tree Planting Details

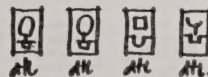
1. Tree Planting details
 - typical details
 - special condition details over vaults, obstructions

2. Tree Grate details

f. Preliminary Specifications

1. Street Tree Plantings
2. Tree Grates

g. Preliminary Cost Estimate

products
notes


D. Sidewalk Paving

1. Preliminary Streetscape / Developer Zone Paving Concept (presented Fall 1989)

2. Additional Design Studies

a. Streetscape / Developer Zone paving options

1. Sidewalk Paving examples (color xerox)

2. Sidewalk Paving material options / samples
- size, texture, color studies

3. Paving pattern studies

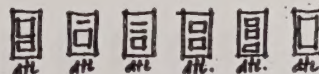
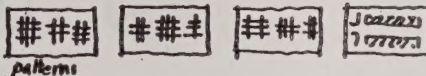
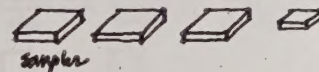
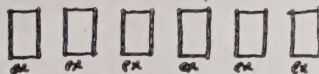
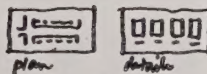
b. Paving Details

- detail sections, plans
- special conditions / adjustments

c. Paving mockups

d. Preliminary Specifications

e. Preliminary Cost Estimate

productsnotes

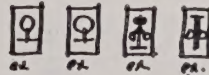
E. Additional Street Improvement Elements and Options

products

notes

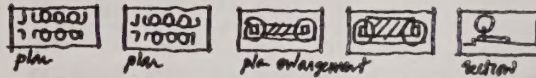
1. Landscape and Planting Options

a. Design examples (color xerox)

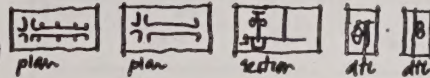


b. Design Studies and Concept Development

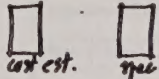
1. Planters with floral display between street trees (in wide walk areas)



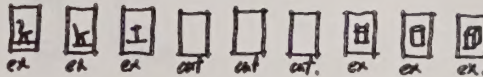
2. Hanging baskets on street light standards (in narrow walks or below grade obstructions)



c. Preliminary cost estimates / specifications

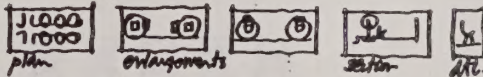


2. Street Furnishings and Amenities

a. Design examples of Furnishings / Amenities
- manufacturer's brochure, catalogue cuts
- color xerox / photographs


b. Design Studies and Concept Development

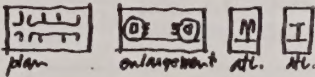
1. benches and seating



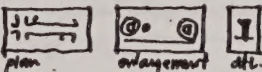
2. bollards at intersection / crosswalks



3. Bicycle racks



4. Drinking Fountains



5. Trash Receptacles

6. Cocks

7. Newspaper vending machines, etc.

- c. Composite Street Furnishings and Amenity Development Plans
- families of furnishings / palette
 - placement, location, quantity, etc.

- d. Preliminary Specifications and Cost Estimates for street furnishings and amenities

3. Kiosks and Sidewalk Vendors (Retail Streetlife)

a. Design examples (checkboxes)

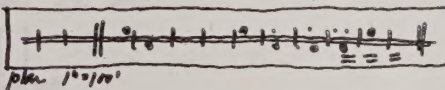
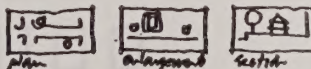
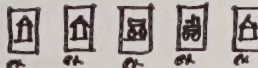
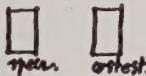
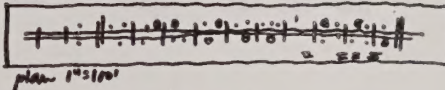
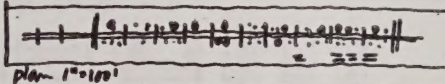
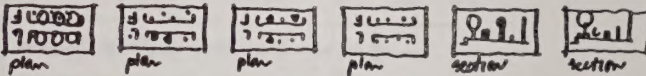
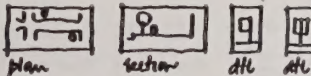
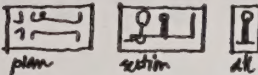
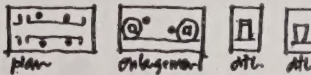
b. Design Studies and Concept Development

1. Kiosks, information booths, etc.
2. Sidewalk vendors

- c. Composite Development Plan
- coordinate w/ composite street furnishings
 - placement, location, etc.

products

notes



4. Graphics and Signage

a. Design examples (color text)

b. Design Studies and Concept Development

1. Street signage

- regulatory street signage system / coordination
- location, placement
- graphics
- informational signs, etc.

2. Festive / seasonal banners on street light standards

5. Street paving, curbs, utility and Misc. Issues

a. Resurfacing Boylston St. w/ asphalt pmt.

- issue:
- cost estimate

b. Adjust / replace exist granite curbing

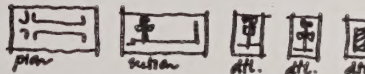
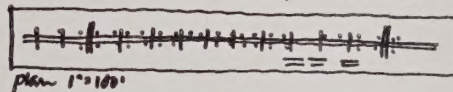
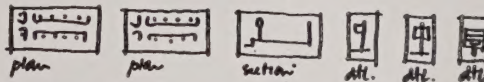
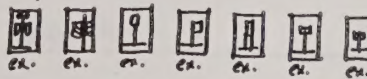
- issue: achieve positive drainage / eliminate ponding
- cost estimate

c. Adjust / relocate utilities, parking meters, traffic signals, etc.

- issue: coordinate items w/ continuity strip; relocate drainage inlets off corners
- cost estimate

products

notes



III. Preparation of Final Street Improvement Guidelines (Neigwi Development)*

A. Preliminary Review / Approval Process

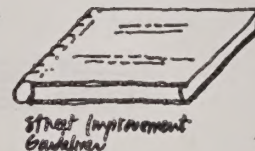
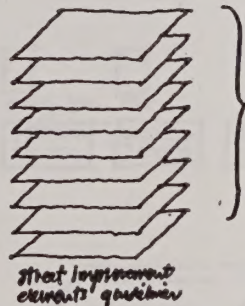
products

notes

1. Preliminary review by city agencies / community review committee of street improvement criteria
2. Adopt preliminary criteria / guideline package by city / community
3. Issue prelim. Street Improvements Guidelines to Boylston St. developers / property owners

B. Prepare Final Street Improvement Guidelines

1. Prepare final Street Improvement Guideline package (plans, details, samples, specifications, cost estimates)
 - a. Street lighting and accessories
 - b. Continuity strip and crosswalks
 - c. Street trees and tree grates
 - d. Sidewalk paving
 - e. Landscape options
 - f. Site Furnishings and Amenities
 - g. Kiosks and sidewalk vendors
 - h. Graphics and signage
 - i. Street, curb and utility issues
2. Establish review process for guideline conformance by developers
3. Final review with city agencies and community review committee; final approval.



4. Issue final 'Boylston St. Improvement Guidelines' to Boylston St. developers, property owners and City agencies
5. Monitor conformance to improvement guidelines by developers

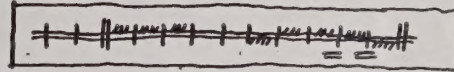
products

notes

IV. Preparation of Street Improvement Implementation Plans (Contract Documents)

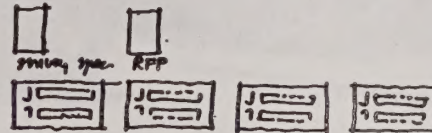
A. Determine project phasing

1. Identify areas of street improvement implementation not included by other developers
2. Determine priority phasing areas and schedule



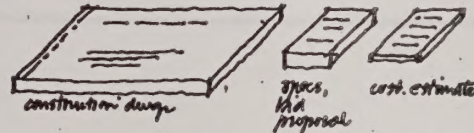
B. Site Surveys

1. Prepare survey specification, authorize RFP
2. Review fee proposals, schedule; award contract
3. Prepare site surveys of blocks by phase priority



C. Prepare Implementation Plans / Contract Documents

1. Prepare construction drawings: plans, details, sections
2. Prepare final specification and construction estimate
3. Prepare construction bid package / proposal
4. Review bid proposals; recommend award of contract



D. Construction Phase

1. Observe construction progress; provide clarification; approve shop drawings
2. Perform final inspections, punchlists, etc.

Looking west, Boston, Mass



Preliminary Streetscape Guidelines

BOYLSTON ST. IMPROVEMENTS STUDY

I. Street Improvement Concept

A. Boylston St. Improvements Study Area

1. Location of street improvements study area encompasses both sides of Boylston St. from face of building to face of building and extends from Arlington / Public Garden to the Fenway.

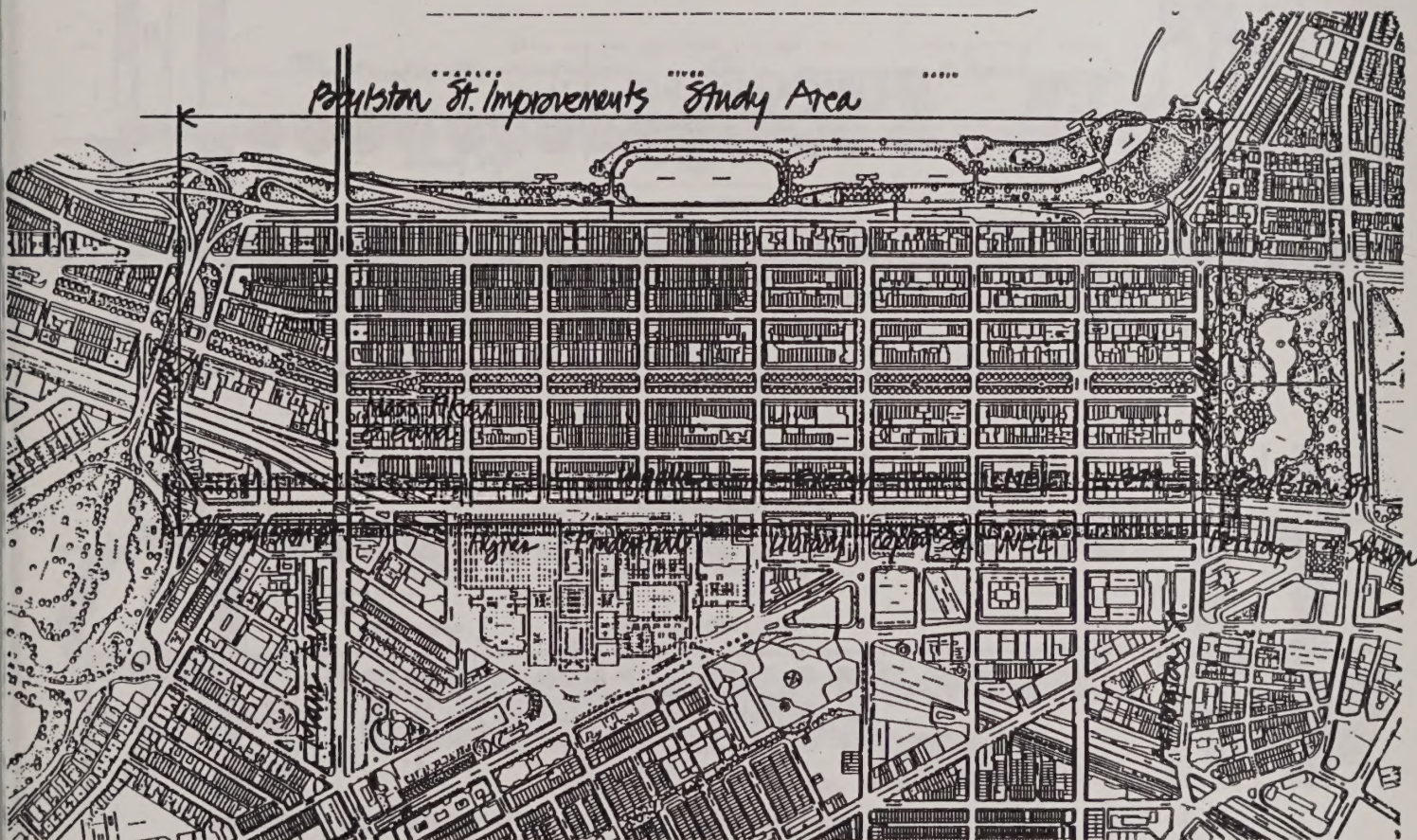
B. Purpose of Study

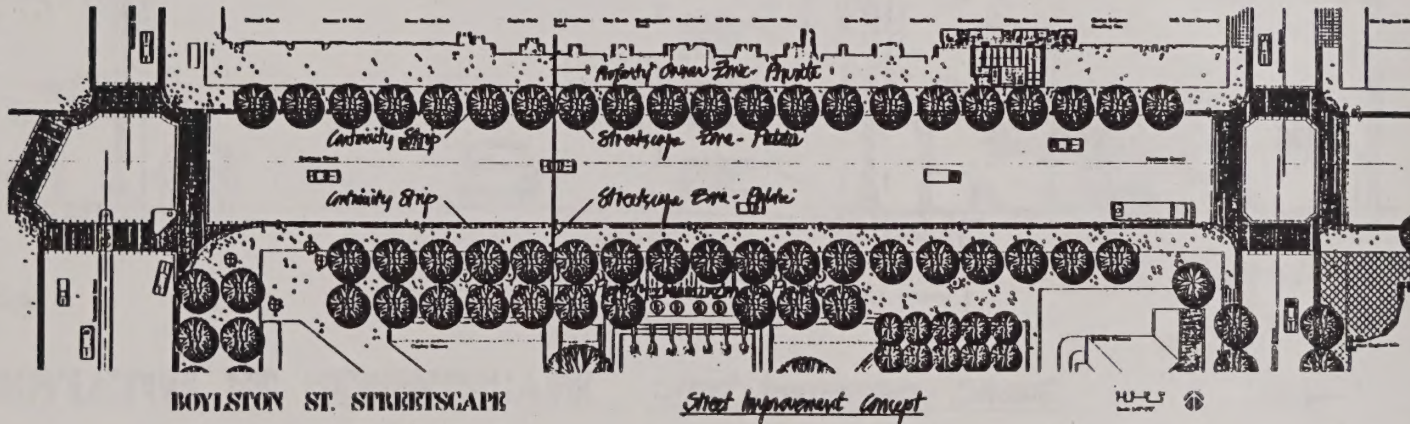
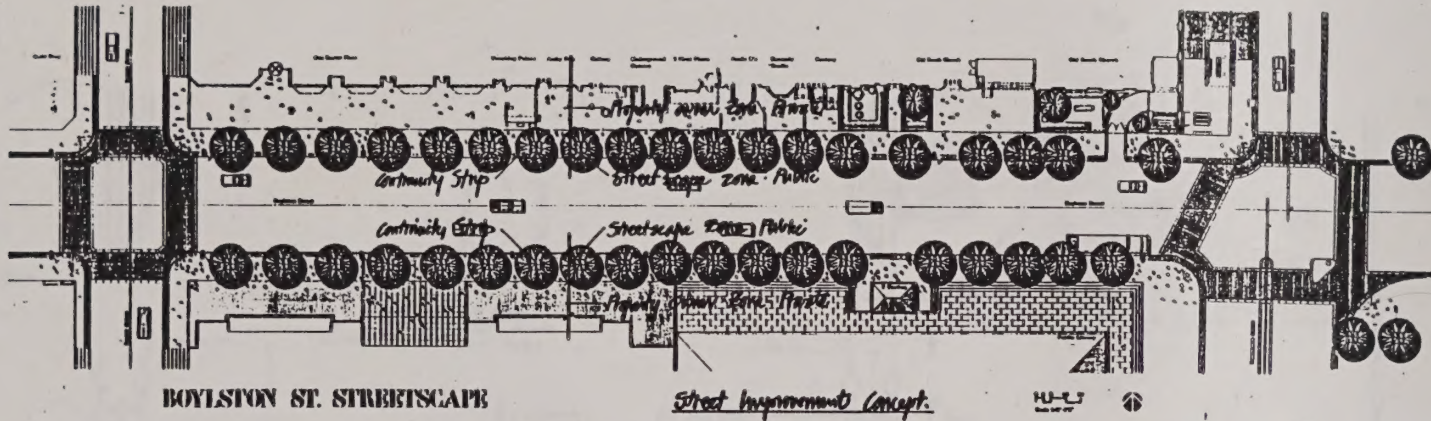
1. To improve the overall image and visual quality of Boylston St.; to enhance the retail vitality of Boylston St.
2. To identify specific design criteria for coordinating street improvements related to new building construction by developers / property owners along Boylston St.
3. To encourage developers / property owners proposing new projects to incorporate the design criteria into their proposed development.



view of Boylston St. looking east

Study Area Limits







Street Improvements - Concept



II. Street Improvement Elements

A. Street Lighting Criteria and Lighting Accenones

1. General:

- a. Proposed street lights to modified version of City approved, City of Boston Neighborhood / Downtown Post: 'Washington Post' (acorn globe).
- b. Washington Post manufactured by Spring City Electrical Manufacturing Co., Spring City, Pa. (Philadelphia). 215/948.4000.
- c. Street light placement:
 - spacing @ 75-85' o.c., opposite one another
 - post centered in 30' wide continuity strip, 1'-5" from back of curb to centerline of post and base
- d. Cross arms / luminaires rotated 90° (perpendicular to curb) from City approved orientation parallel to curb.

2. Proposed design intent:

- a. Replace existing cobra-heads and ball globe street lights on Boylston with modified City approved 'Washington Post' street lights.
- b. Washington Post street lights:
 - provide a design consistency and complements the architectural / historical character of Boylston St.
 - relate to the same 'family' of City approved street lights (with some modifications) located in other areas of Boston; thus,



existing cobra head type lights -
North side of Boylston St.



existing plastic ball lights -
South side of Boylston



Washington Post - single, 17'-2" MH
City Standard, located old Hancock
Building (Boyley St.)



Washington Post - single, plastic
'acorn' type globe with integral
canopy and plastic finial

facilitates easier maintenance and interchangeability of components

- establishes a streetscape structure and hierarchy for Boylston St. in relation to other streets.

3. 20'-10" mounting height Street light (double and quad)

a. Base:

- 24" ϕ cast iron base; stock round or hexagonal
- base slips over shaft for installation

b. Shaft:

- shaft height increased from City approved neighborhood / downtown height of 11'-0" to stock item height of 17'-1"
- manufacturer recommends fluted steel monothru construction shaft with taper in lieu of City approved cast iron to additional support due to increased height and weight of cross-arms

c. Cross-arms and top adaptor

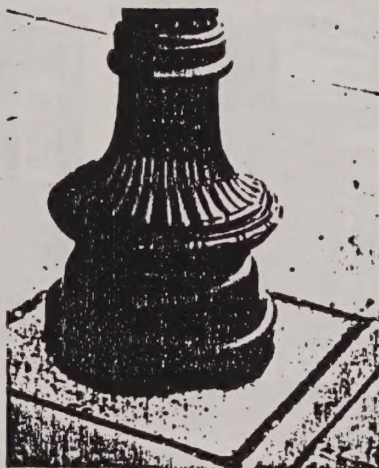
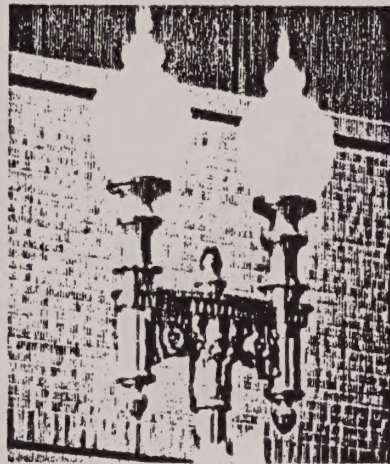
- cast iron Washington Post double or quad ornate interchangeable cross arms and top adaptor.
- manufacturer recommends optional stock item aluminum casting for double and quad cross arms to reduce weight.

d. Lamp / Luminarie

- mercury vapor or metal halide source (with city approved refractor) depending on results of photometric studies.
- ballast / socket assembly to be interchangeable City approved.



Washington Post. double 17'-2" MH
City Standard; located @ Public
Garden



top - ornamental cast iron cross-
arms w/ dbl. luminaires
bottom - cast iron base, 18" φ

e. Globe:

- acorn shaped glass globe without integral canopy
- globe to be alabaster glass with pebble texture
- coefficients of utilization approximately same as City approved polycarbonate.

f. Canopy:

- spun aluminum canopy with cast aluminum finial at top

4. 17'-2" mounting height Street Light (single luminaire)

- a. City approved 'Washington Post' City of Boston neighborhood downtown street light.

- b. Other modified features (luminaire, globe, canopy, source) to be same as 20'-10" double and quad street light.

5. Street Light locations

- a. 20'-10" MH quad luminaire:
- located at gateways, major plazas

- b. 20'-10" MH double luminaire:
- typical fixture along street

- c. 17'-2" MH single luminaire:
- City approved street light located on north/south streets intersecting Boylston St.

6. Street light features, options and accessories

- a. crossarms and top adaptor



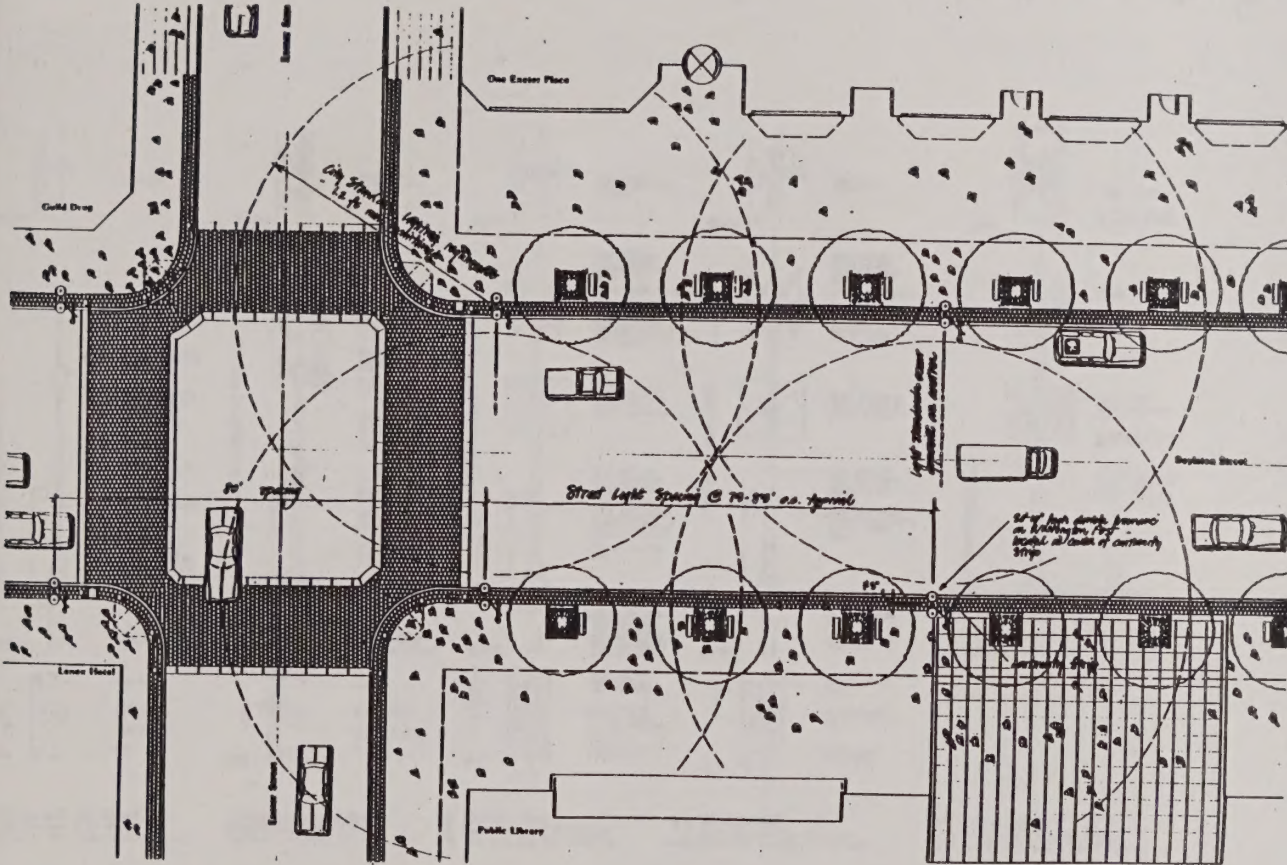
Washington Post - double, 17'-2" MH,
luminaires perpendicular to street;
(Harvard Square)



Washington Post - double luminaire;
proposed Boylston St. mounting
height @ 20'-10"

- study optional stock iron cross arm castings that are available and compatible
- b. Paint/Colors:
 - study optional paint colors and application for cross-arm decoration
- c. Festive banners:
 - provide option for mounting festive banners to pole with brackets
- d. Hanging baskets:
 - provide option for mounting seasonal hanging baskets to pole in narrow sidewalk areas where trees cannot be accommodated due to below grade obstructions

Preliminary Street Lighting Concept



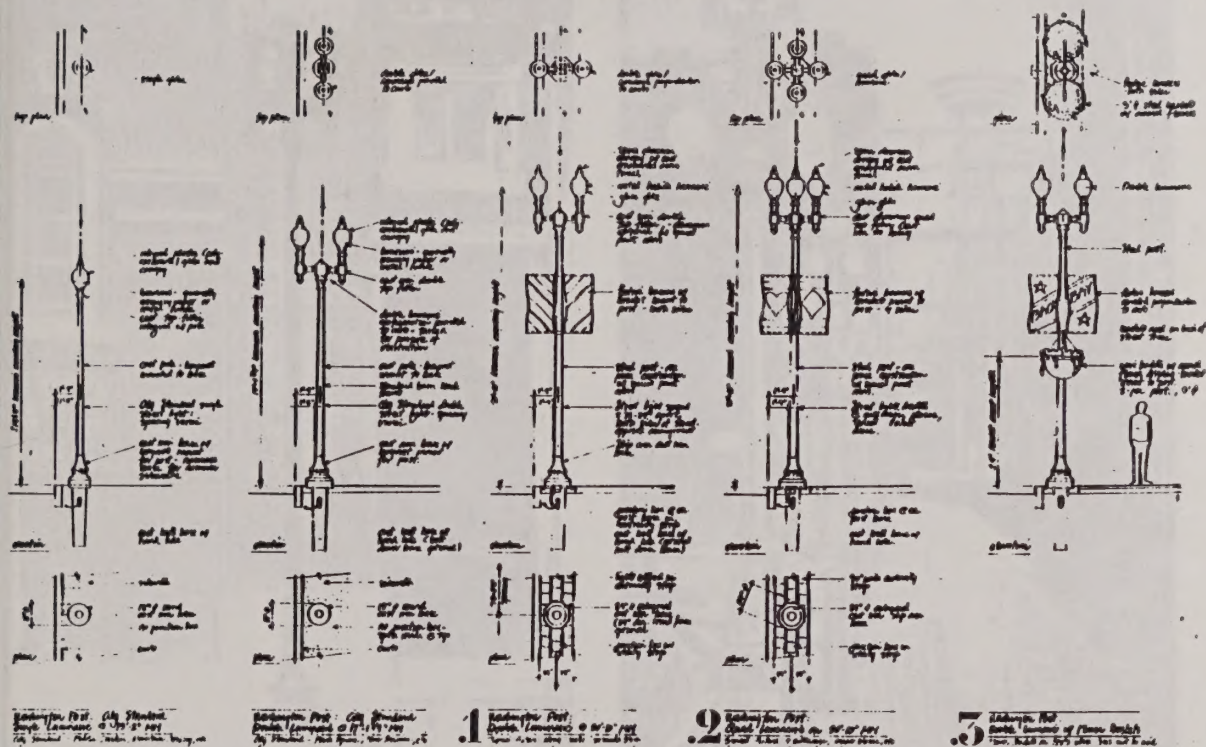
BOYLSTON ST. STREETSCAPE

Street Lighting

0 5 10 20
Scale 3"=100'

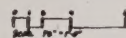


Preliminary Street Lighting Concept.



BOYLSTON ST. STREETSCAPE

A Street Lighting





Washington Post - quad luminaire; proposed at gateway, major Plaza (St. Louis, Mo.)



Cluster luminaire street light (Eastown, Vancouver, B.C.)



Cluster luminaire street light - 'Winged Griffin' (Maynard Plaza; St. Louis, Mo.)



Decorative / festive banners mounted to ornamental street light
(St. Louis Union Station; St. Louis, Mo.)



top - decorative / festive banners
(Country Club Plaza, Kansas City)
bottom - decorative banners (St. Louis, Mo.)



Hanging flower baskets mounted to ornamental light post
(Covent Garden, London)



Continuity Strip - 18" wide granite
parallel to curb
(Harvard Square)



Continuity Strip
(Harvard Square)

B. Continuity Strip and Pedestrian Crosswalks

1. General:

a. Continuity Strip:

- 30" wide granite strip located parallel to back of curb and continuous full length of block
- Strip follows radius of curb at intersection corners
- integrates with handicap ramps on corner
- continues back along intersecting street terminating at line projecting from building

b. Pedestrian crosswalks:

- 10 to 14" wide granite crosswalk at each intersection

2. Proposed design intent:

a. Continuity Strip:

- provides coordinated location for miscellaneous utilities; other curb related elements; i.e., parking meters, valve boxes, fire hydrants, light standards, traffic signals, regulatory signage, etc.
- provides visual separation and tactile definition (from granite texture) of sidewalk edge between active pedestrian walking area and street related parking and vehicular movements.
- provides design integrity of specific block and visual continuity block to block; visually links street improvements along Boylston together.



Continuity Strip - 12" wide w/ granite pavers, thermal finish
Old Hancock Bldg. Boston



Continuity Strip - 12" wide w/ granite pavers parallel to back of walk (Old Hancock)

b. Pedestrian Crosswalks:

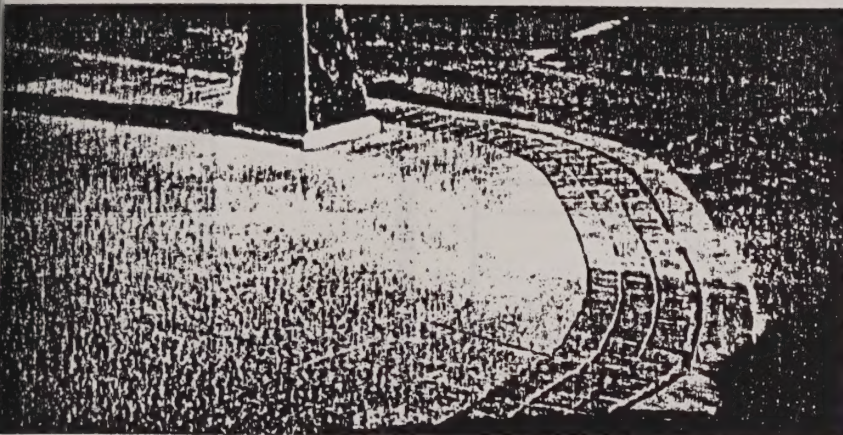
- provide defined zone for pedestrian street crossing at intersections
- provide "rumble strip" to encourage caution for vehicular traffic proceeding thru intersections
- provide visual continuity of street improvements from one end of Boylston to the other.

3. Continuity Strip and Pedestrian Crosswalk Materials and Construction:

- a. Continuity strip and crosswalk paving 'field' to be 9" square x 3" thick granite pavers. Use same as Fenway crosswalk pavers and Esplanade bridge pavers.
- b. Crosswalks to be bordered by 18" wide x 5'-0" long granite header with thermal finish
- c. Surface texture of granite pavers to be thermal finish. Example of granite finish similar to Hancock Tower plaza pavers, Old Hancock Building continuity strip pavers and Fenway crosswalk pavers
- d. Color of granite pavers for continuity strip and crosswalk to match Fenway and Federal Reserve Bank crosswalks: - 'Chelmsford' color as quarried by Fletcher Granite Co., West Chelmsford, Mass.

4. Special Conditions:

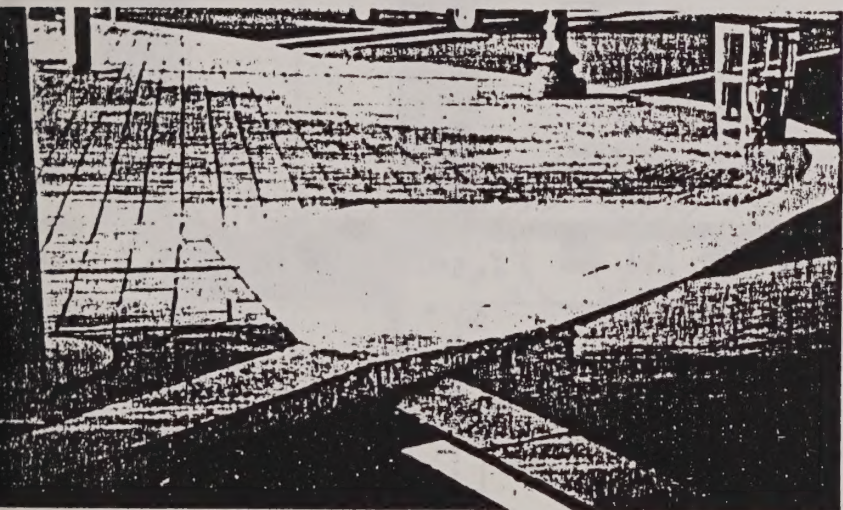
- a. Continuity strip occasionally interrupted by tree grates that occur adjacent to back of curb in narrow sidewalk areas.
- b. Handicap ramps occur at end of radius at corner



(2 each corner) and align with handicap ramp across street.

5. Crosswalk Option at Corners:

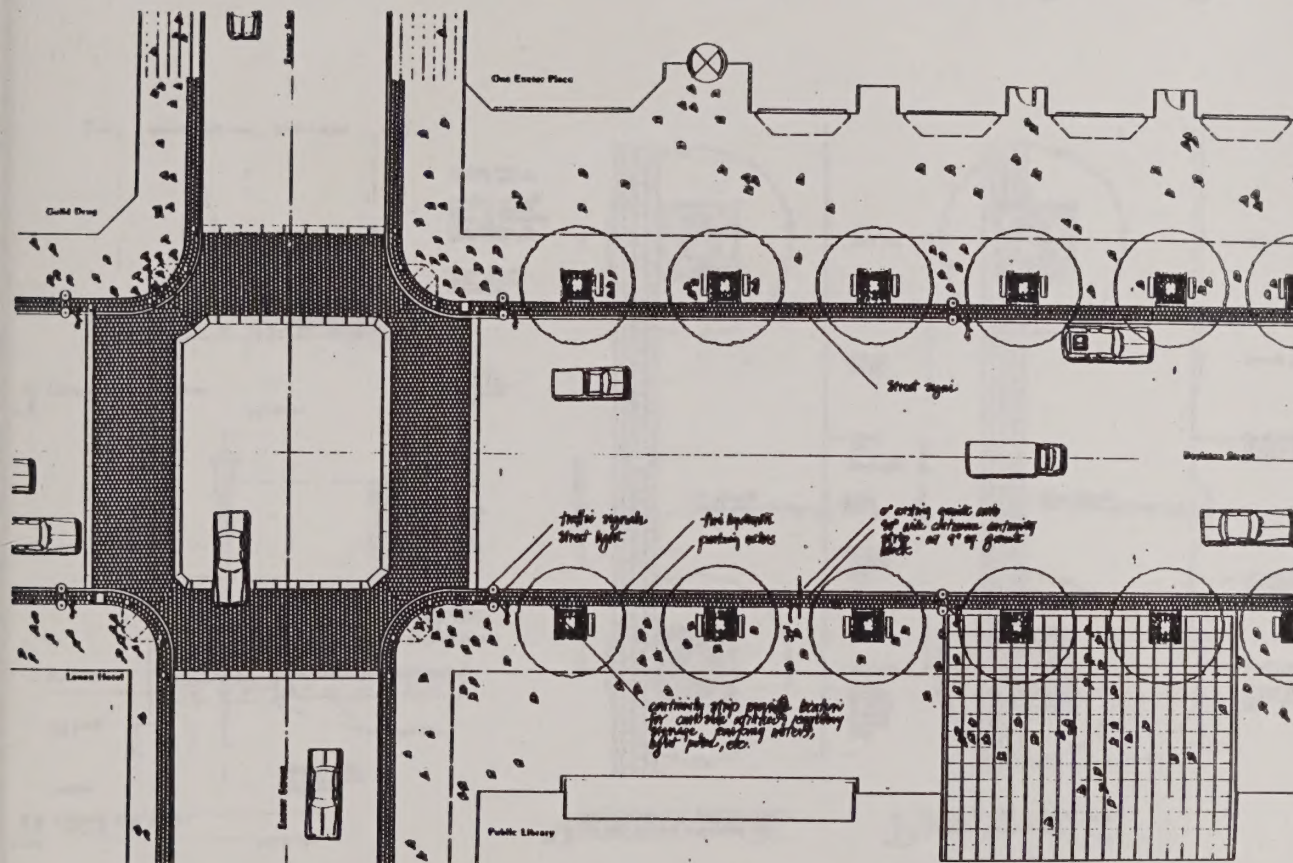
- a. Provide street 'neck downs' on Boylston St. at intersection to reduce pedestrian crossing distance.
 - curb line and sidewalk paving reconfigured with street each side of Boylston by $\pm 9'$.
 - provides 'shaded' parking lanes on both sides of street.
 - street width at intersections still maintains three $\pm 11'$ wide thru lanes.
- b. Street 'neck down' option provides greater sidewalk safe area for pedestrians waiting to cross street.
- c. Street 'neck down' requires major adjustment / relocation of drainage structures at corners and relocation of traffic signals.



top - continuity strip integrated w/ handicap ramp
(Old Hancock Bldg.)

bottom - granite handicap ramp at crosswalk (Penn. Ave; Wash DC.)

Preliminary Continuity Strip Concept



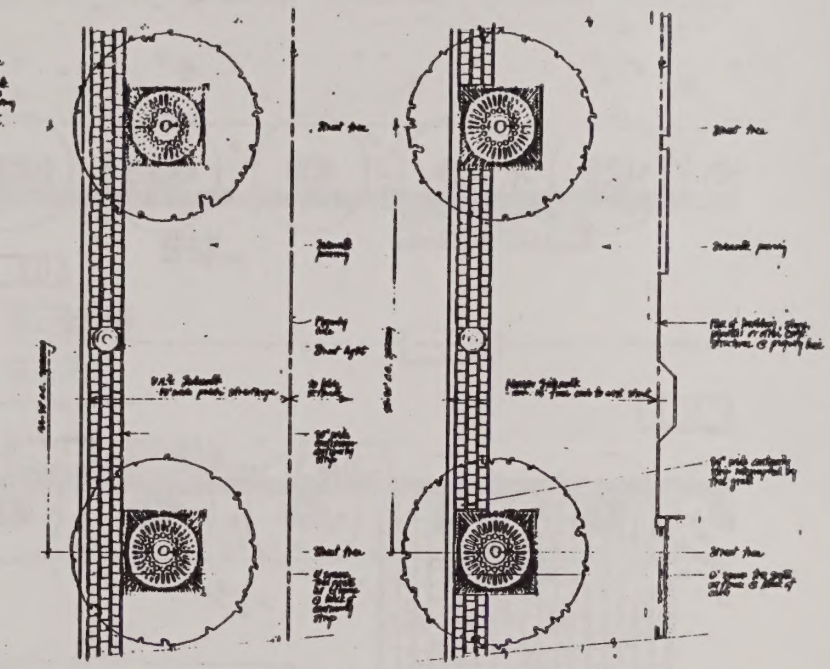
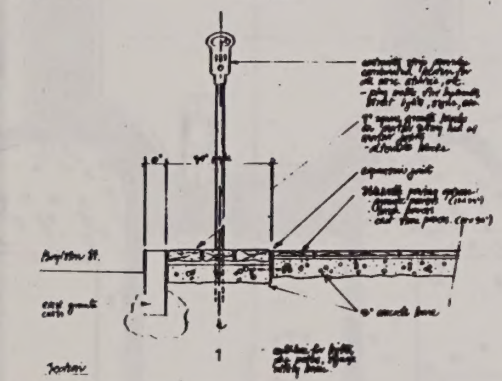
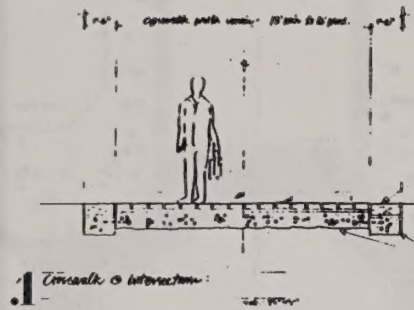
BOYLSTON ST. STREETSCAPE

Continuity Strip

Scale 1/16" = 1'



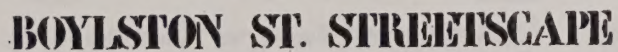
Preliminary Continuity Strip Concept



a Continuity Strip & Sidewalk
The sidewalk is adjacent to the continuity strip.

b Continuity Strip & Sidewalk
The sidewalk is adjacent to the continuity strip.

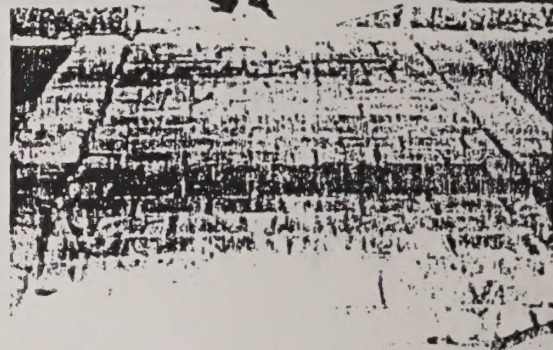
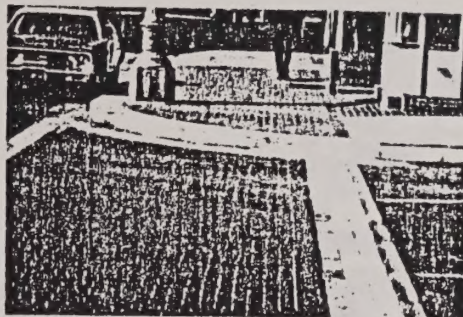
Preliminary Continuity Strip Concept: 'Neck-down Option'



4 Optim B. Cerny /
Lithography

9 9 9 12 16 2





top - Brick crosswalk w/ granite headers (Harvard)
bottom - Brick crosswalk thru granite cobble drop-off zone (Harvard Square)

top - brick crosswalk (Market St., S.F.)
center - brick crosswalk (Penn. Ave.)
bottom - granite/brick crosswalk (Vancouver)

Granite pavers (9"x9") in crosswalk w/ granite headers (Fenway, Boston)



Neck down at intersection (South End neighborhood, Boston)



top - 'neck down' providing shadow of parking, identifying street entrance, reducing width of crosswalk.
bottom - curb configuration of neck down (Harvard Square)



London Plane Trees located on upper Boylston St.
(between Gloucester and Hereford Sts.)

C. Street Trees and Tree Grates

1. General:

a. Street tree location / spacing:

- spacing of street trees occur at 25-30' o.c. typical and align across street with one another.
- spacing of street trees based on either 30' building module (structural bay) of newer buildings or 24-28' property width / building frontage of older buildings.
- street trees located behind 30" wide continuity strip in wide sidewalk areas.
 - setback distance from curb line (36") helps protect tree branches from damage by tall buses and trucks
 - setback also helps to protect tree roots / trunk from salt spray

b. Tree Grate:

- street trees occur in 6'x6' square tree wells with cast iron tree grates and optional tree guards.

2. Proposed design intent:

a. Street trees:

- provide rhythm to streetscape; provide scale to streetscape
- enhance visual quality of Boylston; visually link Public Garden with the Foreway - parks at the ends of Boylston St.



top - Honeylocust tree at Faneuil Hall
bottom - Honeylocust street tree at Copley Square

b. Tree Grates:

- provides protection to the rootball of the tree from being compacted
- extends the effective sidewalk width for pedestrian movements
- reduces maintenance/cleaning of tree well.

3. Street Tree Characteristics and Species:

- a. minimum tree size to be $7\frac{1}{2}$ - 6" caliper, approximately 25-30' tall. Tree ball size 48-52' diameter.

b. Recommended species:

- London Plane tree
 - coarse texture; unattractive gray/green summer color; no fall color - leaves drop forever!
 - large leaves; causes maintenance problems
 - good urban tree; moderate growth
- Honeylocust (thornless varieties)
 - fine texture; attractive green summer color, bright yellow fall color; light foliage - dapple shade!
 - small leaflets; no maintenance problems
 - good urban tree; fast growth
- Little leaf Linden
 - coarse texture, dense foliage; dark green summer color, yellow/brown fall color.
 - medium size leaves; average maintenance
 - good urban tree; moderate to slow growth, good architectural shape, requires pruning
- Bradford Pear
 - medium texture, medium foliage; white flower-like



Little leaf Linden trees at Christian Science Center (Boston)



top, bottom - Little leaf Linden trees w/ full foliage, form. (Christian Science Center)

brackets in spring, attractive green summer color, brilliant orange/red/yellow fall color
 • medium size leaf; average maintenance
 • good urban tree; fast growth; good shape; holds leaves late in fall, good availability

- Zelkova

- medium texture, medium foliage; green summer color; brilliant orange/red/brown fall color
- medium size leaves; shape like elm tree
- good urban tree; moderate growth
- good shape - replacement tree for American Elm
- hard to obtain, availability limited in large sizes

- Red Maple

- medium texture, medium foliage; attractive green summer color; outstanding orange/red fall color.
- large leaf size
- average urban tree; slow to moderate growth, good shape
- availability limited in large sizes

4. Tree Grates and Optional Tree Guards:

- The grate size 6'x6' square; 2 piece cast iron in steel frame. Manufactured by Neehah; Neehah, Wisconsin. with some custom design/modification
- The grate pattern to be radial with fans originating from center. Provide light ports/accen holes in in corners for optimal tree uplighting and seasonal 'B' lighting accen to receptacle.



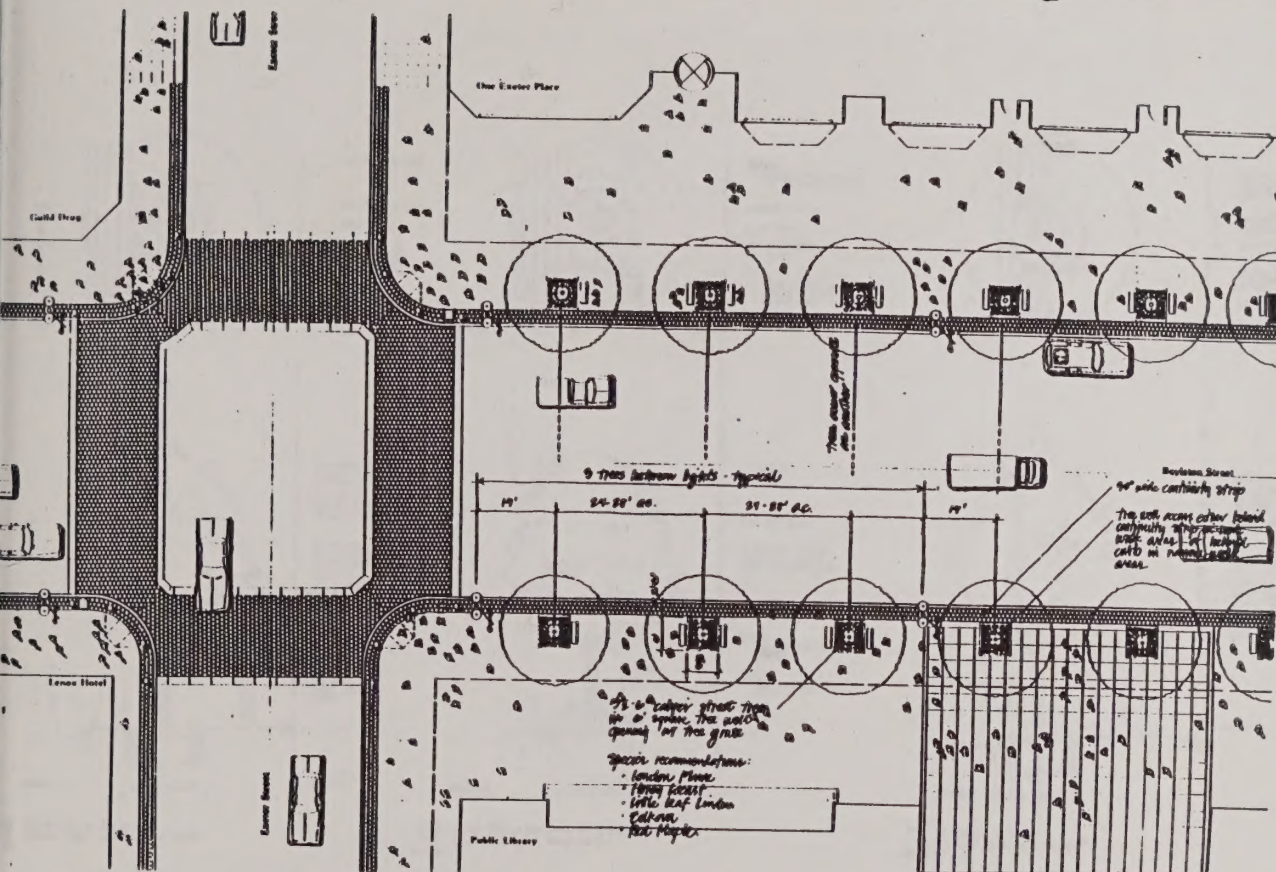
Bradford Pear street trees, fall foliage
(Columbus, Indiana)



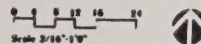
Bradford Pear street tree
(St. Louis, Mo.)

- c. Tree grate web openings to be tight to allow walking across surface
5. Street tree options:
 - a. Tree uplighting:
 - provide tree uplights from tree grate ports
 - light source to be mercury vapor
 - b. Seasonal tree lighting:
 - provide Christmas season tree lighting with 'B' type lights similar to Christian Science Center and Faneuil Hall tree lights.
 - waterproof receptacle to be located in tree well; access thru tree grate ports.

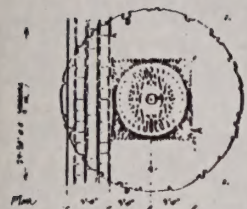
Preliminary Street Tree Planting Concept



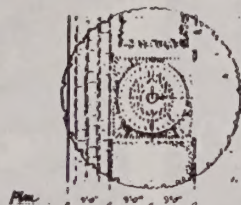
Street Trees



Preliminary Street Tree Planting Concept



10' sidewalk step
sidewalk paving
street tree
circular tree pit
the front of
the sidewalk
property line



Option
Round 10' square curb
round sidewalk plant
sidewalk paving
street tree
circular tree pit
the front of
the sidewalk
property line



10' sidewalk step
sidewalk paving
street tree
circular tree pit
the front of
the sidewalk
property line



10' sidewalk step
sidewalk paving
street tree
circular tree pit
the front of
the sidewalk
property line



Option
Round 10' square curb
round sidewalk plant
sidewalk paving
street tree
circular tree pit
the front of
the sidewalk
property line



Option
Round 10' square curb
round sidewalk plant
sidewalk paving
street tree
circular tree pit
the front of
the sidewalk
property line

1 Street Tree on the street
Standard 10' sidewalk paving with 10' sidewalk

2 Street Tree on the street
Optional Detail for 10' sidewalk

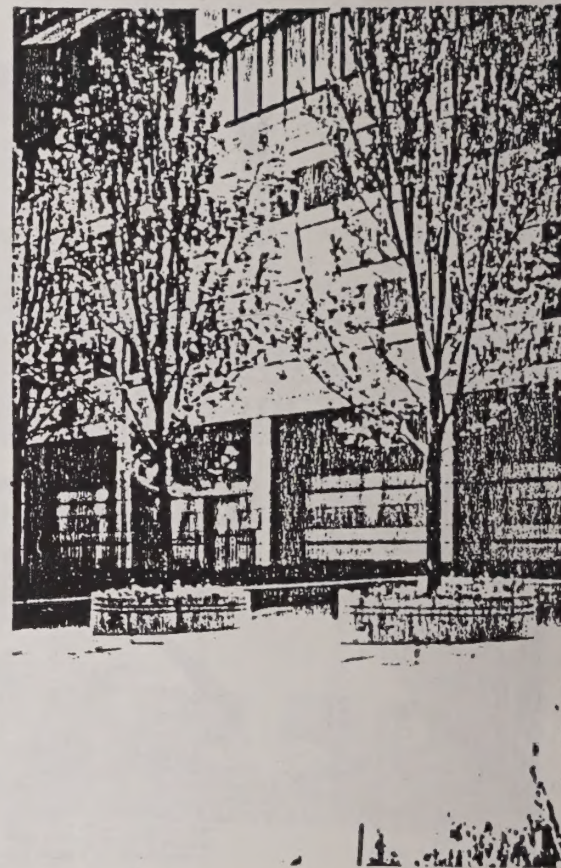
3 Street Tree on the street
Optional Detail for 10' sidewalk



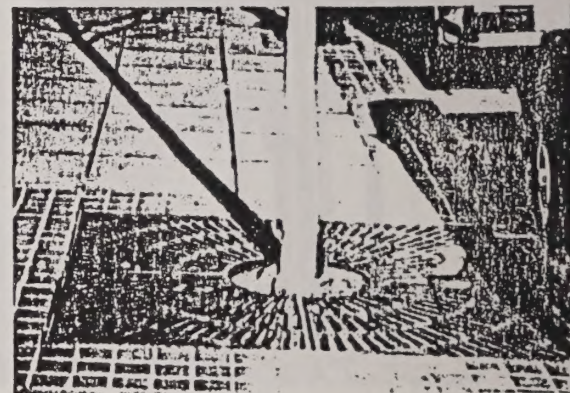
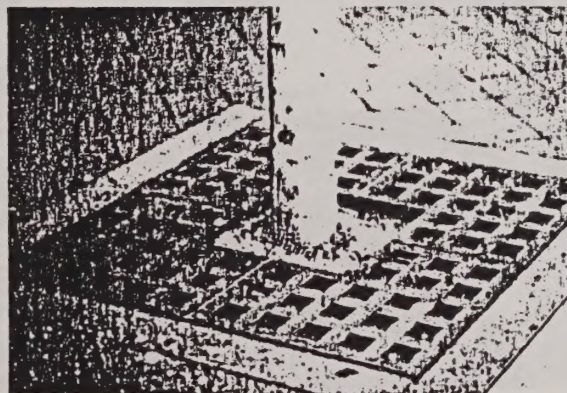
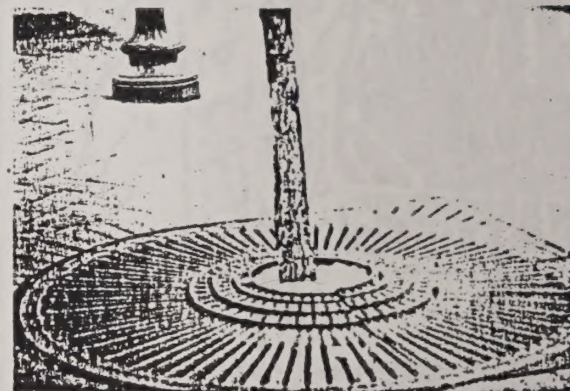
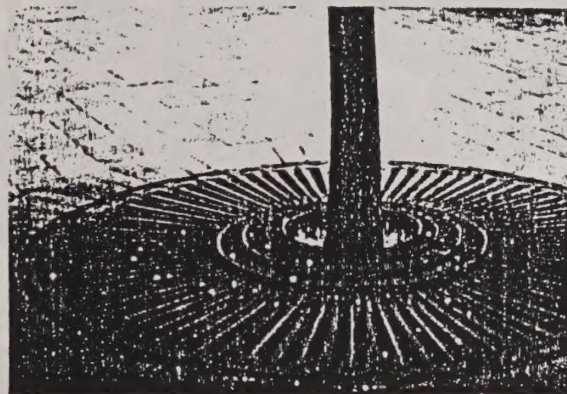
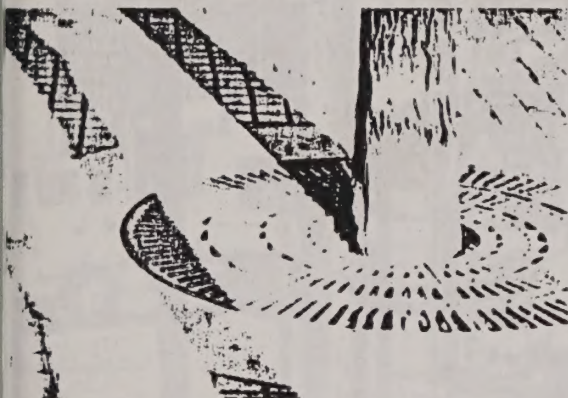
Zelkova trees located in Commonwealth Avenue mall - 6 1/2 - 7" caliper; full foliage



Zelkova street trees in brick tree well (Columbus, Indiana)



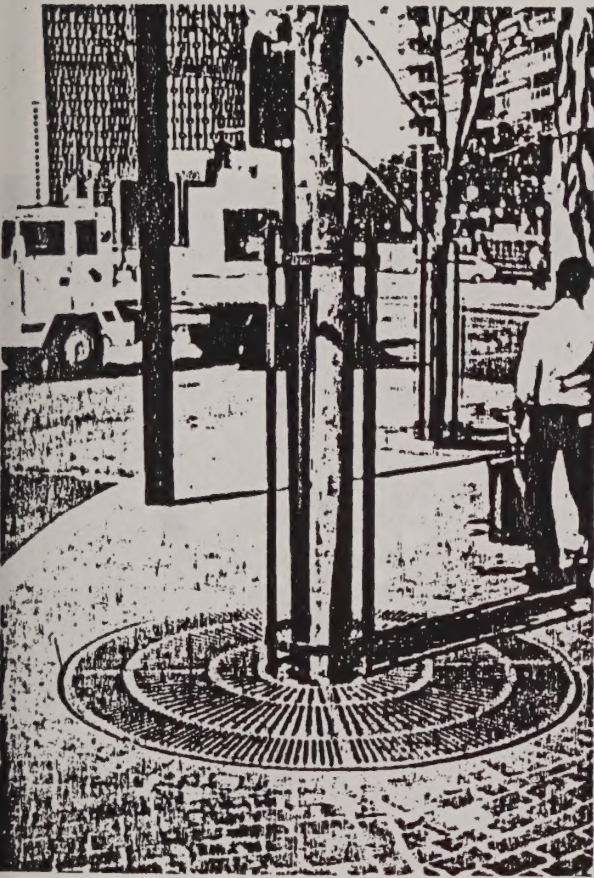
Red Maple trees in planters (Copley Place)



top - cast iron 5' x 4' tree grate (Hancock Bldg.)
bottom - cast iron 6' x 6' tree grate
(Christian Science Center)

top - pressed metal 6' x 6' tree grate
(Penn. Ave., Washington, D.C.)
bottom - cast iron tree grate (L'Enfant Plaza)

top - Penn. Ave. tree grate located adjacent
to curb in square corners.
bottom - cast iron 6' x 6' tree grate (Old Hancock)



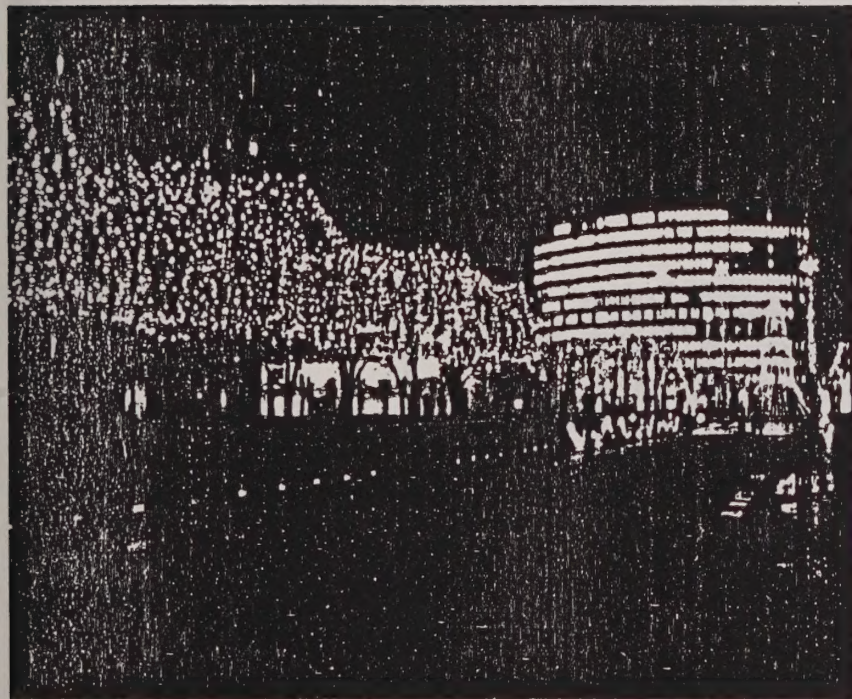
Cast iron 6' x tree grate (w/ close spokes) with tree guard
(Copley Place)



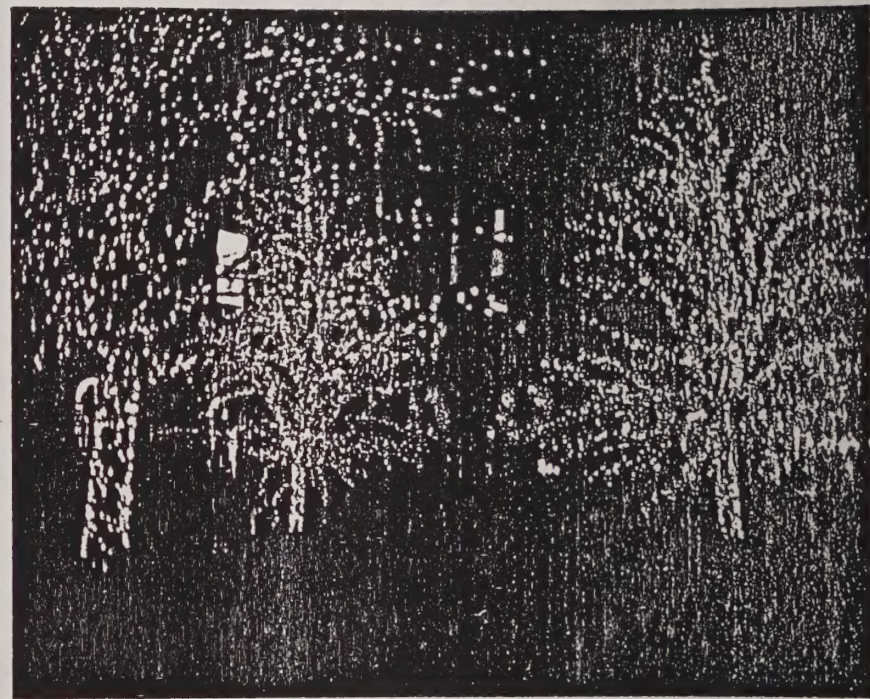
Ornamental tree guard
(Canton; Vancouver, B.C.)



Steel tube tree guard with tree up lights and receptacle in top members
(Citicorp Plaza, NYC)



Seasonal tree 'B' lighting



Seasonal tree 'B' lighting



top - existing sidewalk along Boylston St.
 bottom - existing sidewalk along Boylston St. (in front of 399 block)

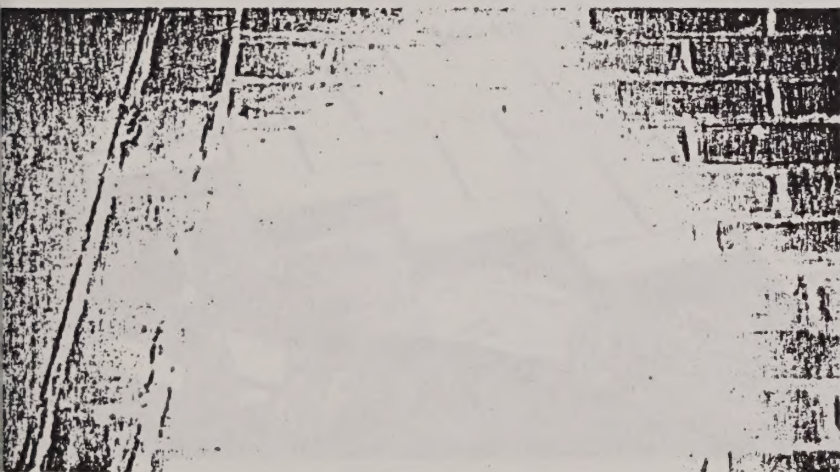
D. Sidewalk Paving

1. General:

- a. Sidewalk paving area occurs between continuity strip and face of building. Width of sidewalk varies from $\pm 12'-6"$ minimum to $26'-6"$ maximum.
- b. Sidewalk paving zones:
 - streetscape - from continuity strip to right-of-way / property line. Width approximately $12'-6"$.
 - developer / private property zone - from ROW / property line to face of building / setback. Width varies from 0 (building / structure on property line) to $\pm 14'-0"$.

2. Proposed design intent:

- a. Remove existing sidewalks in areas determined by priority of entire block street improvements.
- b. Replace sidewalk area with paving material option as recommended by City and Community Review Committee process.
- c. Design objective is to determine single acceptable paving option (and allowable variations) for both the streetscape and developer / property owner zones
 - provide consistency of overall design
 - option selection based on cost, appearance, quality of installation, durability / life, maintenance, etc.



top - brick paving at City Hall Plaza
bottom - 'City Hall' brick pavers with mortar joint; running bond pattern

d. Variations to design intent:

- choice of paving other than approved options for an entire block by a single developer is acceptable provided the material, pattern, color and texture for both the streetscape and developer/property owner are the same (i.e., New England life granite and pattern)
- paving variation must incorporate design intent of continuity strip adjacent to curb.

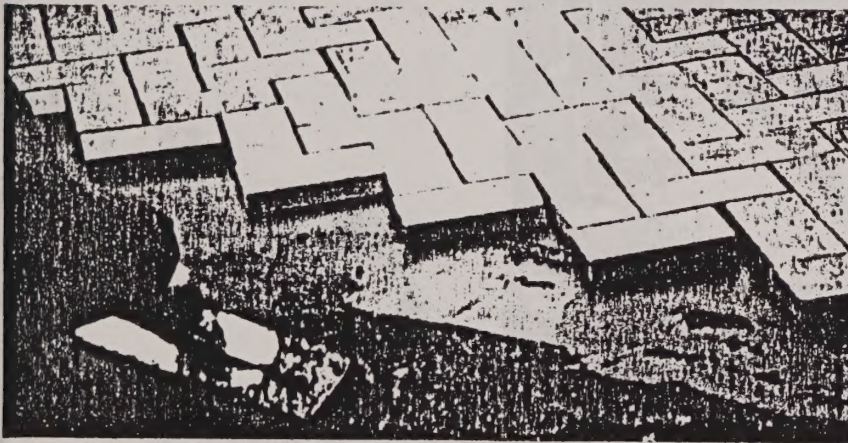
3. Sidewalk Materials Options and Construction:

a. Small texture - Brick Option:

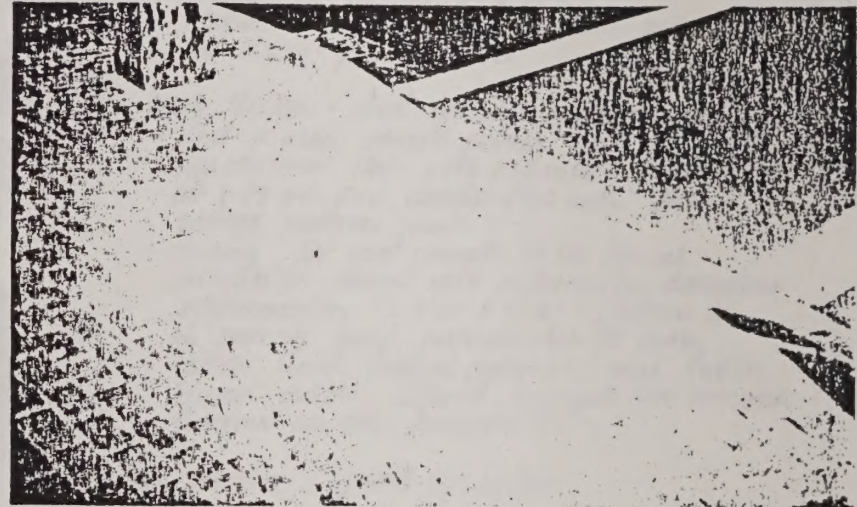
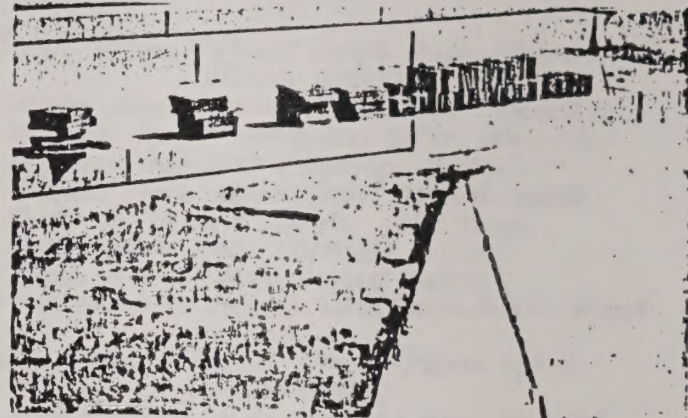
- brick pavers to be 'City Hall' pavers or approved equal as to color range and texture.
- brick pavers to be 4" x 8" actual size and installed on 1/4" bituminous setting bed with neoprene tack coat (Hastings system). Joints to be hand tight, sand/cement swept.
- base to be either 5" non-reinforced concrete slab or 5" depth asphalt paving as approved by city.
- brick paving pattern options: running bond perpendicular to curb, running bond diagonal to curb, modified herringbone.

b. Medium texture - granite Option:

- Granite pavers to be 12 x 24" nominal size on mortar setting bed with 1/4" mortar joints.
- Surface texture of granite pavers to be thermal finish; color range from grey to mahogany (Carnelian)
- Base to be 5" non-reinforced concrete slab.
- Granite paving pattern to be running bond perpendicular to curb.



top - brick paving, herringbone pattern on special 'City Map' manhole cover @ major intersections (Seattle, Washington)
bottom - brick paving installation on bituminous setting bed (Boston)



top - brick paving installation with sand/cement swept joints
bottom - brick paving at handicap ramp with 'threshold' band at property line, separate patterns (Copley Place)



top - granite paving; two color diagonal pattern w/o curb (Denver, Colo.)
bottom - granite paving installation



Granite paving; stack bond pattern (Chicago)

c. Medium texture - Precast Concrete Pavers Option:
(London Walks)

- precast concrete pavers to be 12x24" nominal size installed on 3/4" bituminous setting bed with neoprene tack coat (Hastings System).
- Texture choice ranges from natural concrete finish to 'ground' finish. Color range from warm beige (natural) to grey.
- Base to be 5" depth asphalt paving
- pattern to be running bond perpendicular to curb.

d. Large texture - Precast Concrete Pavers Option:
(London Walks)

- precast pavers to be manufacturers standard size of 18x36" or 24x24"
- texture, color, base and pattern same as for 12x24" pavers above

e. Large texture - Cast Concrete Option:

- cast in place concrete paving slabs, 5" thick nonreinforced slabs with expansion joints at ± 15 o.c. and coordinated with special scoring pattern joints.
- scoring for cast concrete to be special articulated design with rectangular dimensions approximately $\pm 2'-6" \times 3'-9"$. Pattern to be running bond perpendicular to curb.
- finish and texture options: mag. finish, broom finish. Exposed aggregate or retarded finishes are not acceptable.

4. Paving Features / Special Conditions:

- a. Provide 'threshold' paving band between streetscape and developer zone to define



Large stone paving - ashlar pattern
(Covent Garden, London)

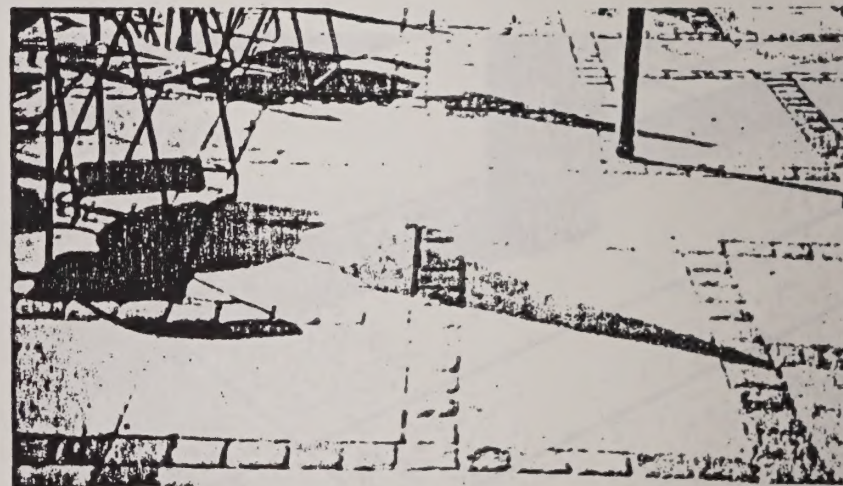
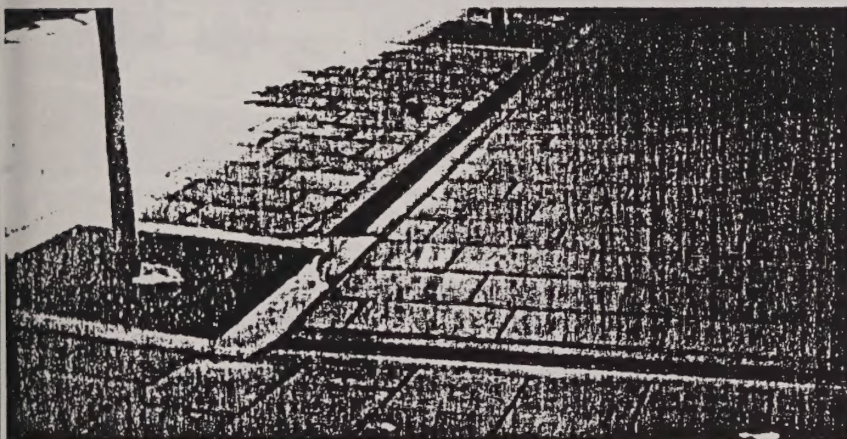
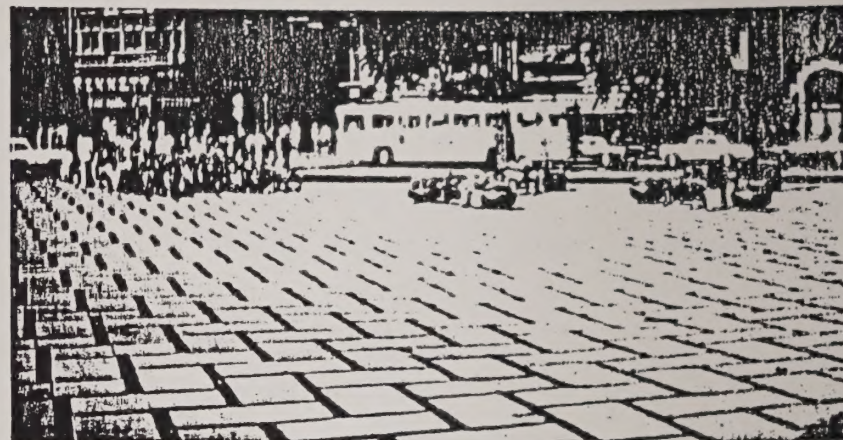


Cast concrete paving - 3'3" x 4'6"
rectangular running bond pattern
(St. Louis Union Station, St. Louis, Mo.)

public right of way.

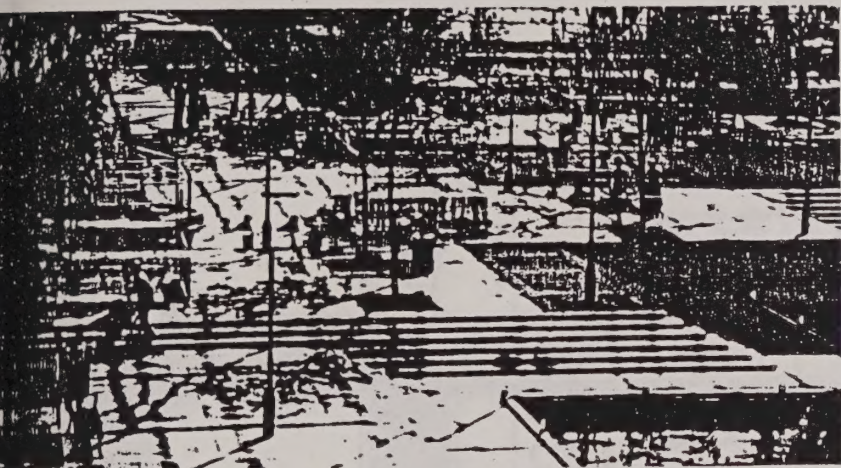
- material to be same as for streetscape zone, pattern to be running bond
- Threshold band defines streetscape zone and allows for change of pattern and paving options in developer/property owner zone only as permitted.

- b. Provide 'splash strip' paving band at face of building in developer zone. Material to be same as developer zone paving or granite if used as vertical face water table course on building.

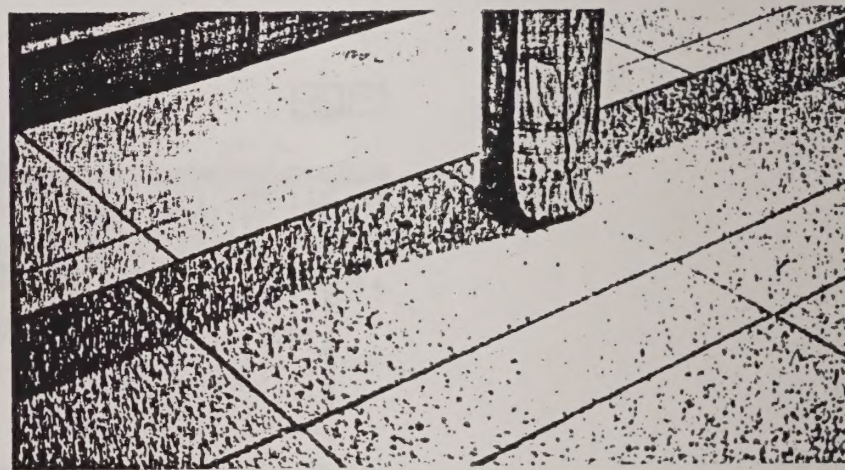


top - precast concrete pavers; rectangular shape (Vancouver, B.C.)
 bottom - precast concrete pavers; rectangular shape, running band (Rainer Square; Seattle, Washington)

top - precast concrete pavers with cobblestone bands, herringbone pattern (City Hall Plaza; Copenhagen, Denmark)
 bottom - precast concrete pavers with cobblestone bands enlargement

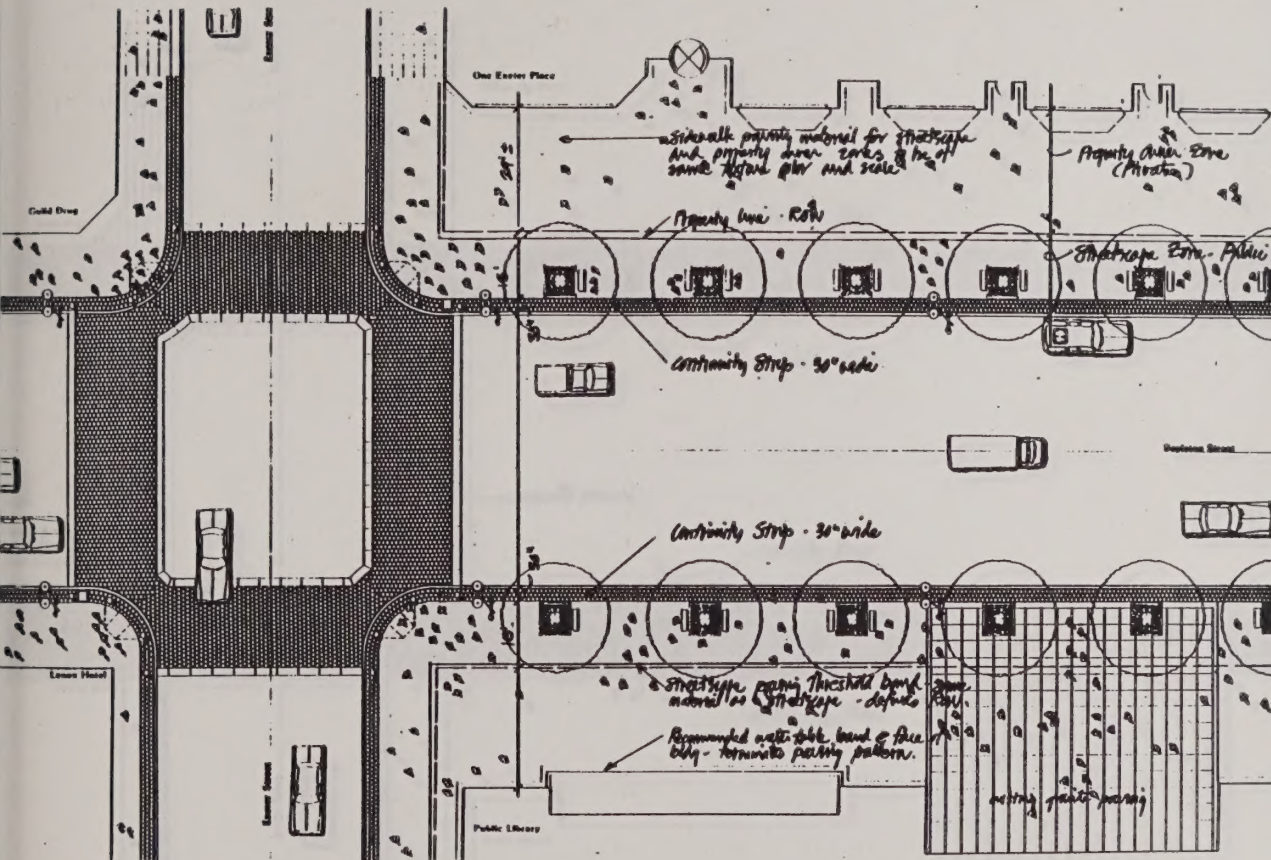


top - cast concrete plaza (St. Louis Union Station; St. Louis, Mo)
bottom - cast concrete paving installation; broom and steel trowel finish (St. Louis Union Station)



Precast concrete pavers (Convention Center, Baltimore)

Preliminary Sidewalk Paving Concept



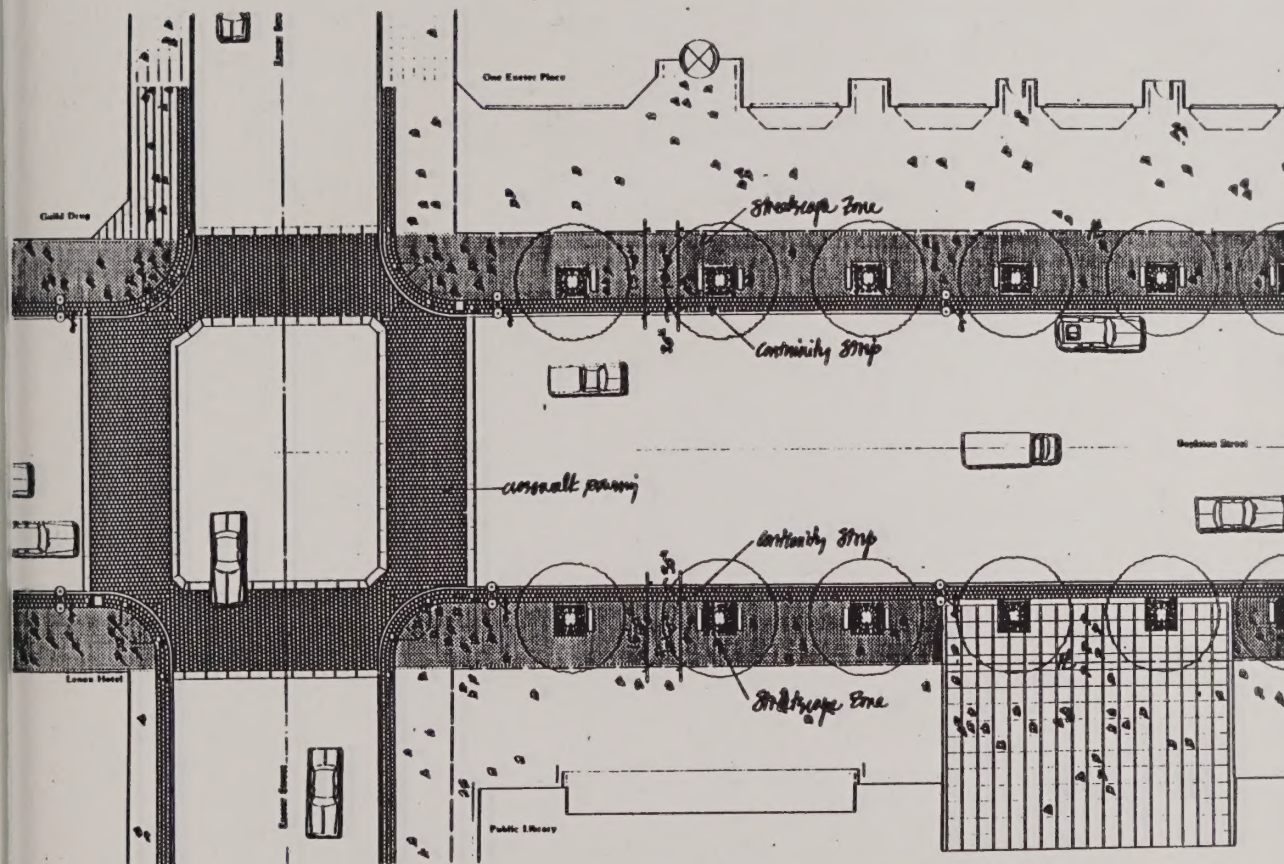
BOYLSTON ST. STREETSCAPE

Sidewalk Paving
Concept

Scale 1/16" = 1'0"



Preliminary Sidewalk Paving Concept

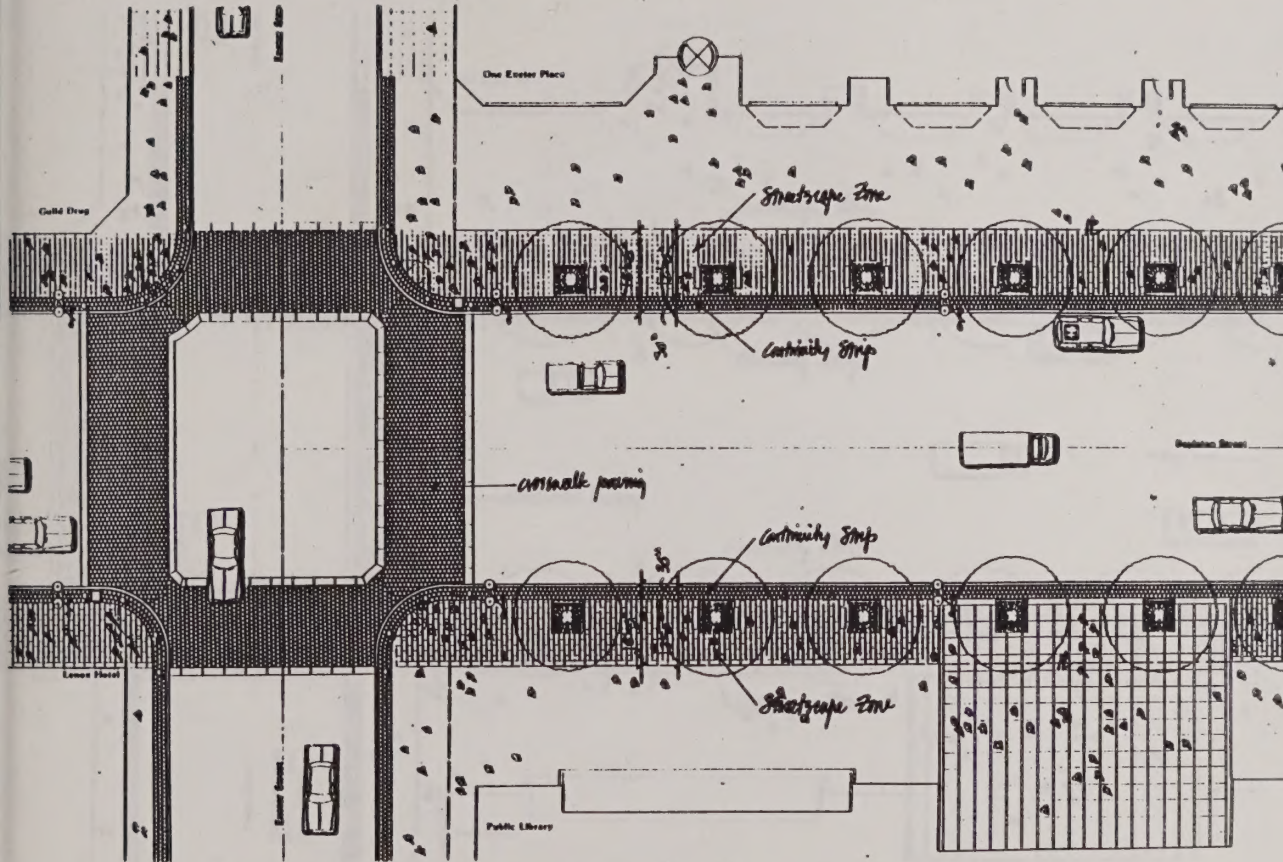


BOYLSTON ST. STREETSCAPE

Streetscape Paving Zone:
small patches, pedestrian friendly
Scale 3/16" = 1'-0"



Preliminary Sidewalk Paving Concept

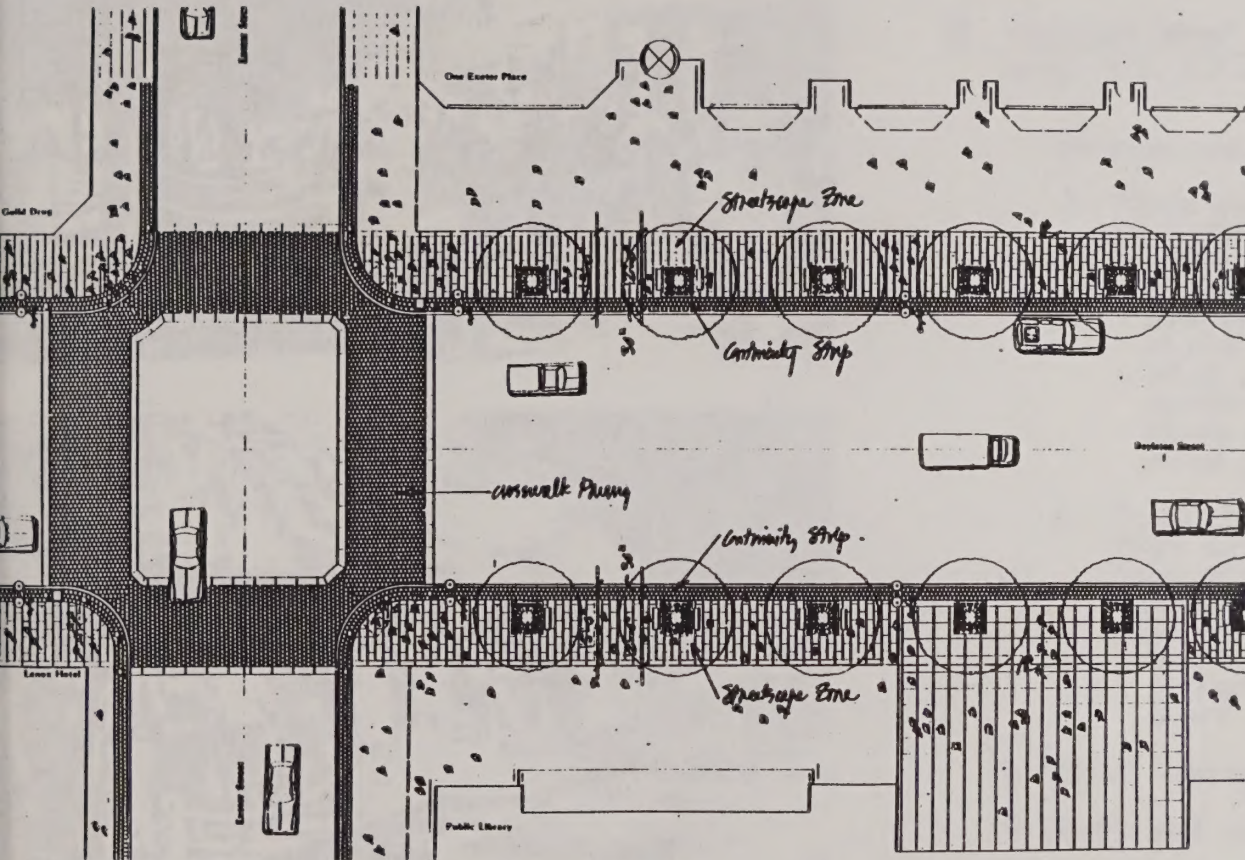


BOYLSTON ST. STREETSCAPE

Streetscape Paving Zone:
radius: 100', pattern: grass
Scale: 1/16" = 1'



Preliminary Sidewalk Paving Concept



BOYLSTON ST. STREETSCAPE

Streetscape Paving Zone:
Large texture, pattern grain
Scale 1/16" = 1' 0"



top - large floral display planters with lawn and street trees between curbs and sidewalks (Michigan)
 bottom - large floral display planters, lawn and street trees

E. Additional Street Improvements Element and Options (sections to be further developed in schematic design)

1. Landscape and Planting Options

- a. Provide ground level planters between street trees in wide sidewalk near
 - reduces perceived portion of wide sidewalks
 - develops opportunities for floral display and other low plantings
 - provides increased separation between street and pedestrian sidewalks
 - provides screening of parked cars
 - provide raised granite curbs (8" high) around planters
- b. Provide hanging baskets for seasonal floral display on light standards in areas of narrow walks that cannot accommodate street trees due to below grade obstruction
 - baskets provide foliage at same level as trees and maintains streetscape element continuity

2. Street Furnishings and Amenities

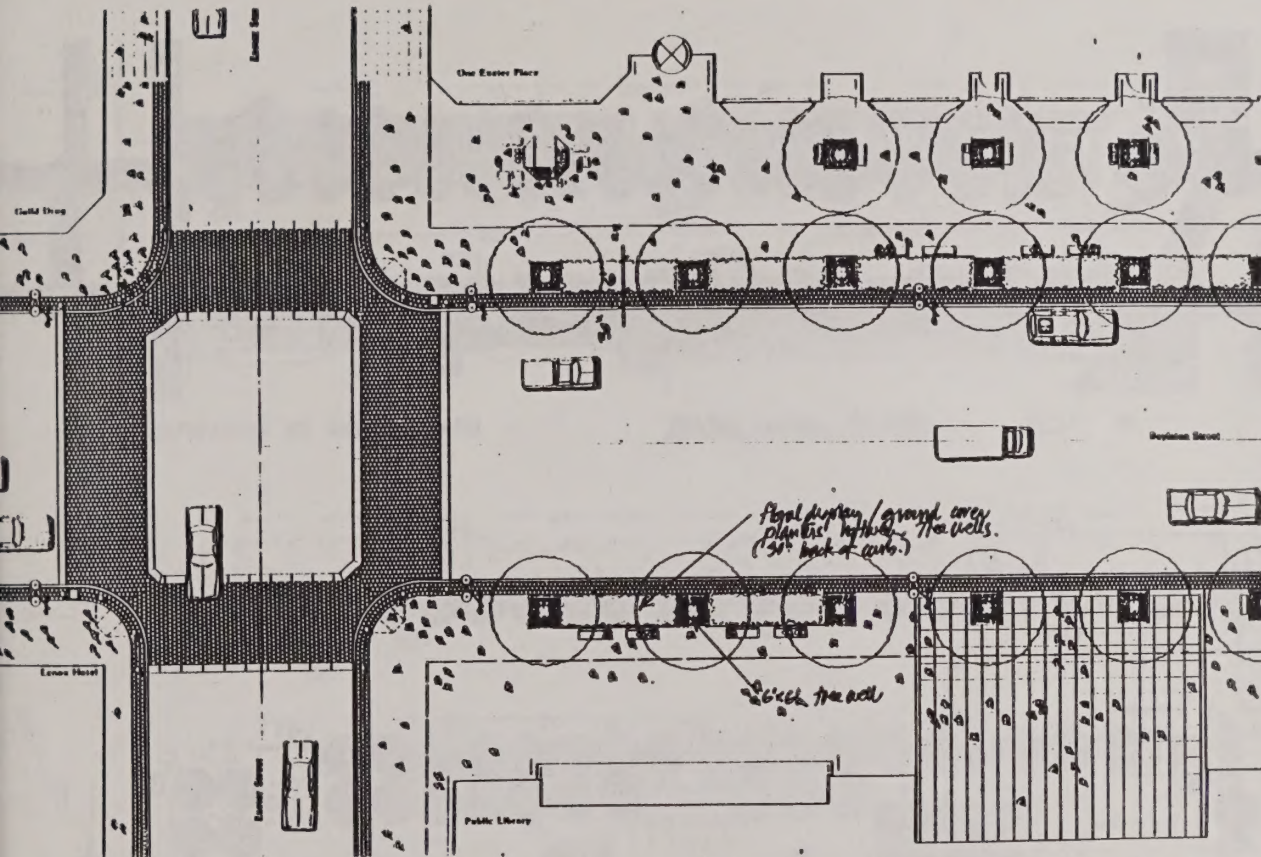
3. Kiosks and Sidewalk Vendors

4. Graphics and Signage

5. Street Parking, curbs, utility issues

} to be further developed in schematic design

Landscape and Planting Options



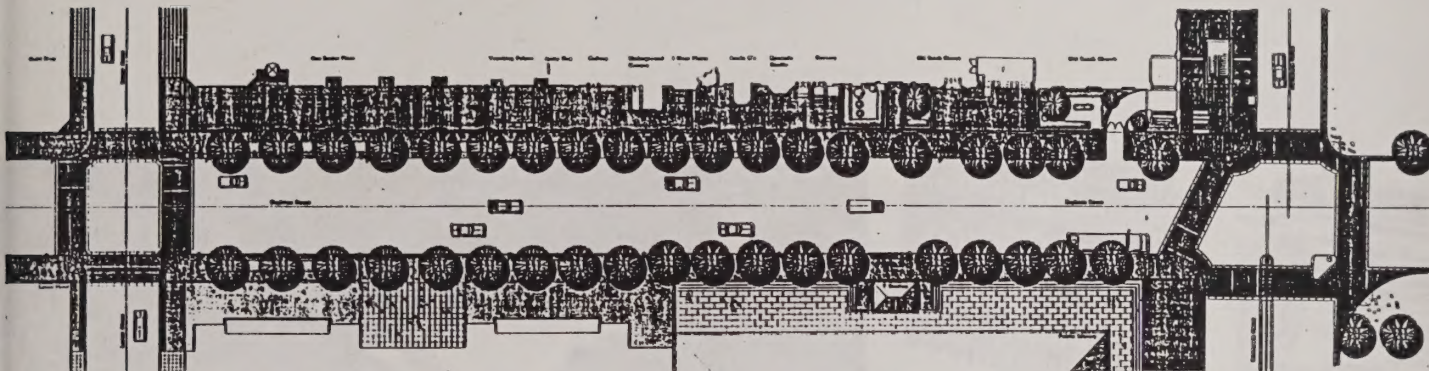
BOYLSTON ST. STREETSCAPE

Plantings between the walls

Scale 1/16" = 1'



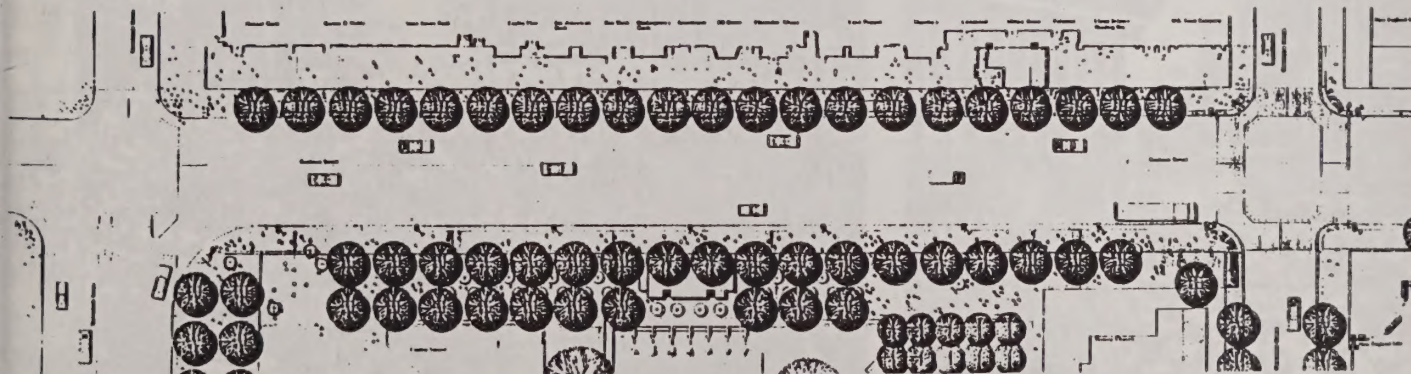
Landscape and Planting Options



BOYLSTON ST. STREETSCAPE

Planters between Tree Wells

10-11
Scale 1/8" = 1'-0"

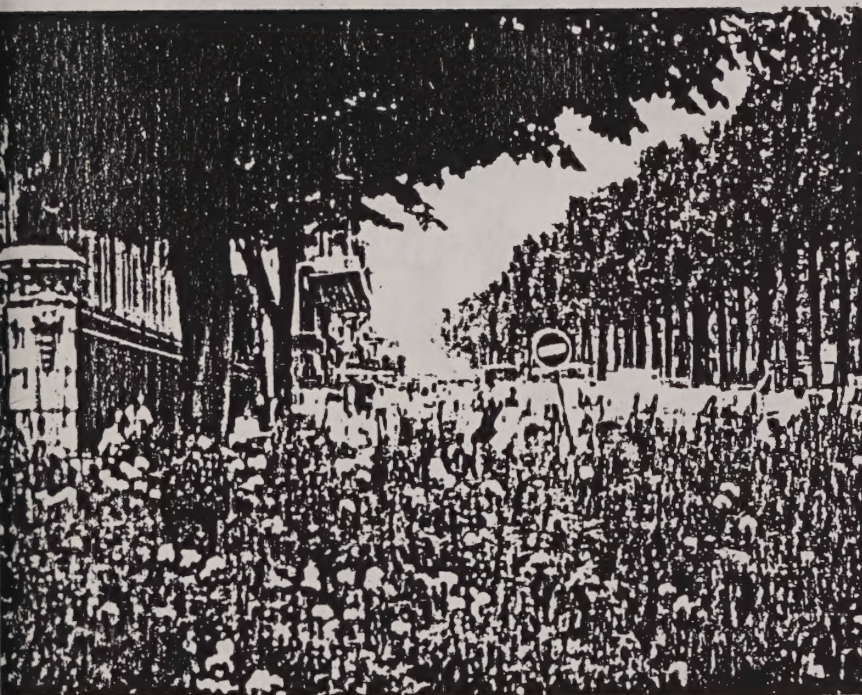


BOYLSTON ST. STREETSCAPE

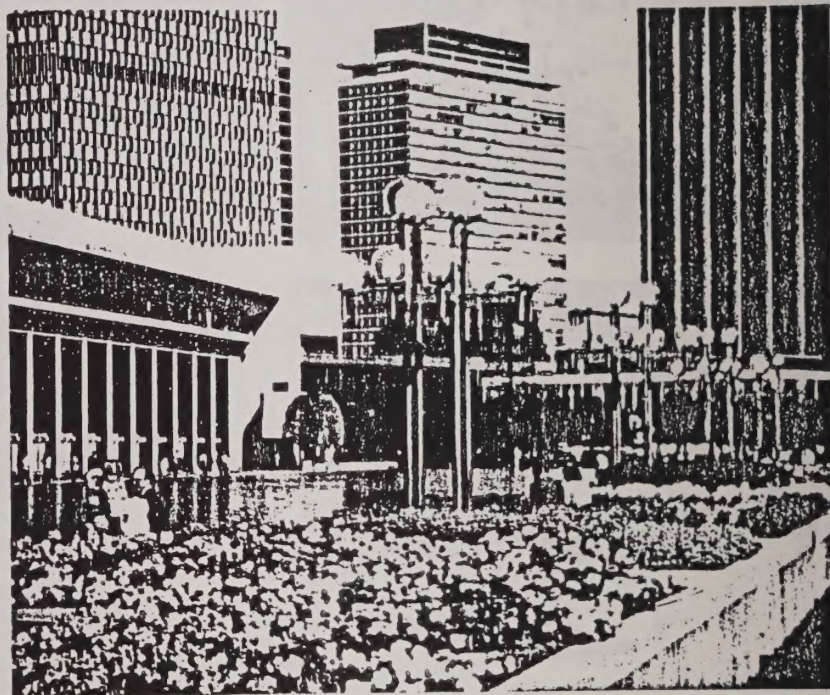
Planters between tree wells

10-11
Scale 1/8" = 1'-0"

Floral Display Plantings



Floral display plantings (Pont Neuf - Champs Elyées, Paris)

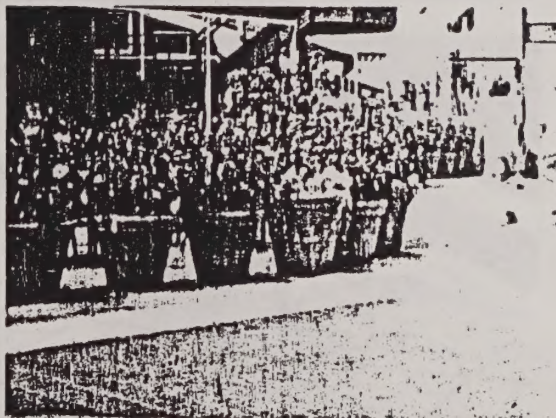
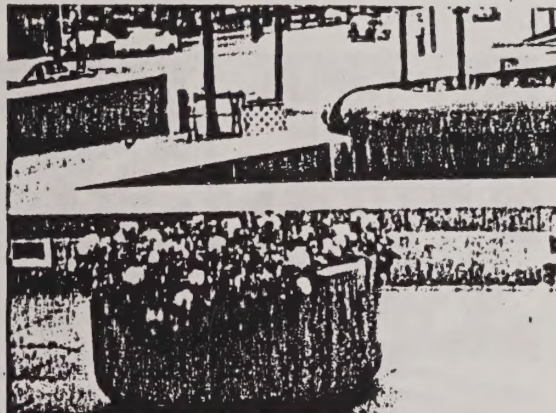


Floral display plantings (Christie Science Center, Boston)

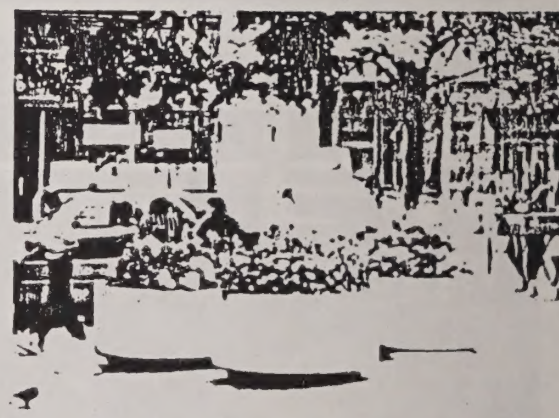
Planters



Planters with annual flowers
(Faneuil Hall, Boston)

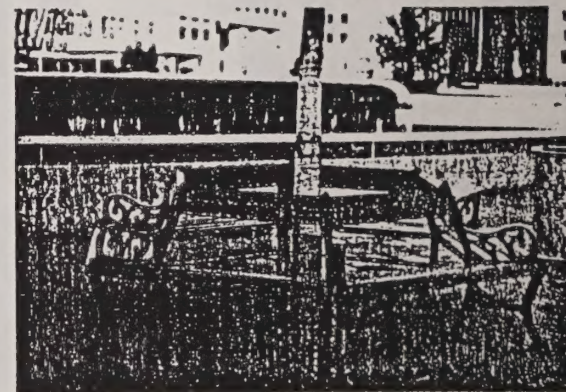
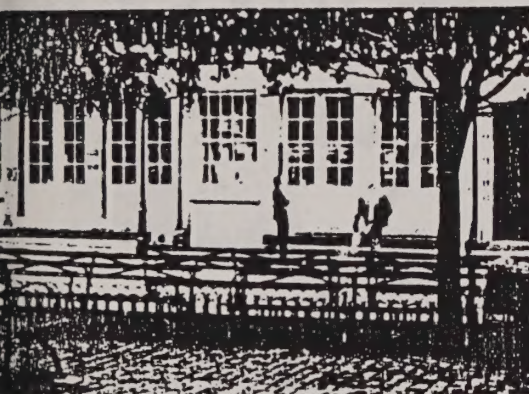


top - planters w/ annual flowers
(Penn. Ave, Washington, D.C.)
bottom - planters w/ annual flowers (Marketplace)



top - planters w/ annual flowers
(Faneuil Hall, Boston)
bottom - planters with annual flowers (Boston)

Benches and Seating



top - metal frame, canvas fabric 'Erlan' benches (Copley Place)
 bottom - wood benches (South St. Seaport, NYC)

top - wood benches (Levi Strauss, S.F.)
 bottom - wood benches w/ cast iron frame (Penn. Ave., Washington, D.C.)

top - double sided wood bench w/ cast iron frame (Penn. Ave., Washington, D.C.)
 bottom - hexagonal wood bench around tree (Penn.)

Bollards



Large granite bollards in front of Public Library
(Boston)



Granite bollard - 18" x 48" taper
(Harvard Square)



Lighted granite bollard w/ internal lamp
assembly
(Copley Place, Boston)

Bollards



cast iron ornamental bollards
(Boston)



lighted metal bollard w/
internal luminaire - 16" ϕ
(Citicorp Plaza, NYC)



cast iron ornamental bollards and chain
(Gastown; Vancouver, B.C.)

Bicycle Racks and Trash Receptacles



top - metal bike rack (Boston)
bottom - Back Bay Trash receptacle
50 gal can in metal frame

wire basket trash receptacle
(Harvard Square)

top - granite bike rack
(Market St., S.F.)
bottom - trash receptacle (Perrine)

ornamental park trash
receptacle (Parr)

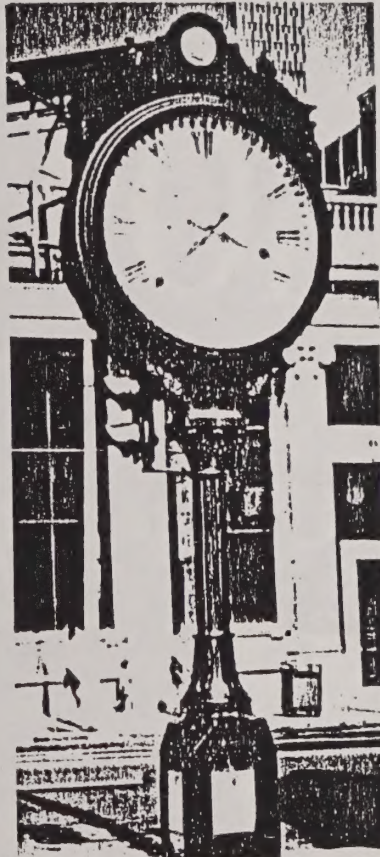
Drinking Fountain and Street Clock.



Cast iron drinking fountain
(St. Charles, Missouri)



Ornamental drinking fountain
(Paris)



Street Clock
(Boylston St., Boston)

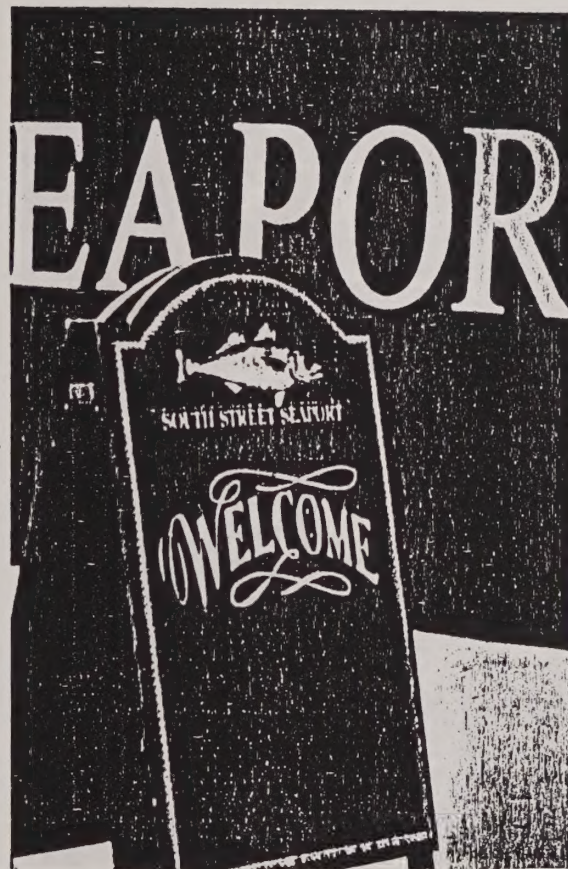


Street Clock
(Boylston St., Boston)

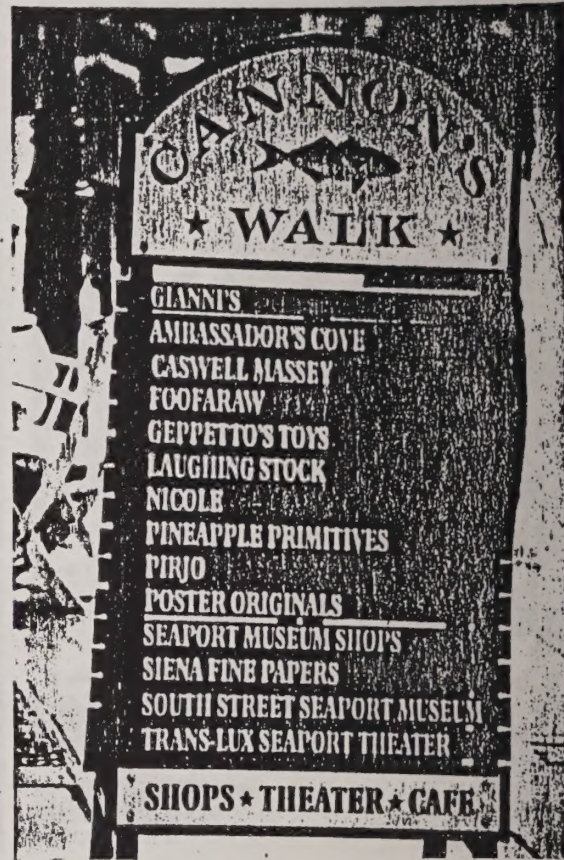
Signage and Graphics



Sidewalk signboard
(South Street Seaport, NYC)



Sidewalk signboard
(South Street Seaport, NYC)

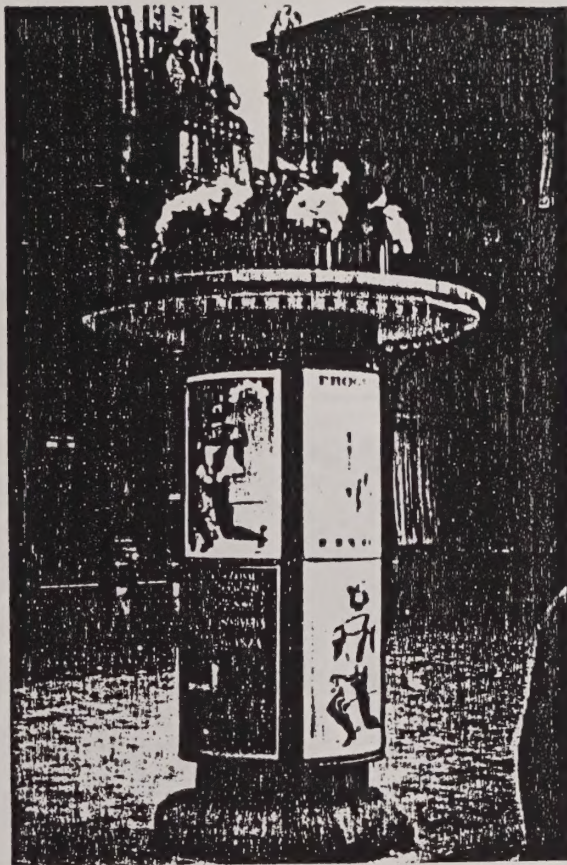


Sidewalk signboard
(South Street Seaport, NYC)

Kiosks and Sidewalk Vending



Newspaper vending kiosk
(Raiten Square, Seattle, Washington)



Kiosk at entry to Tivoli Gardens
(Copenhagen, Denmark)

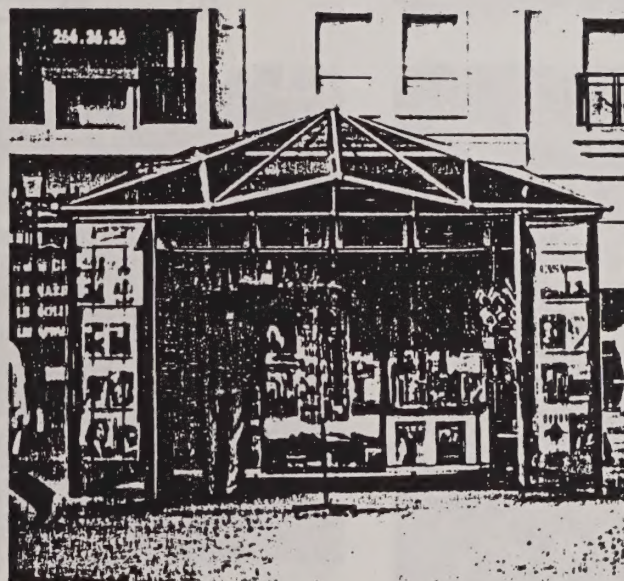


Sidewalk kiosk
(Paris)

Kiosks and Sidewalk Vending



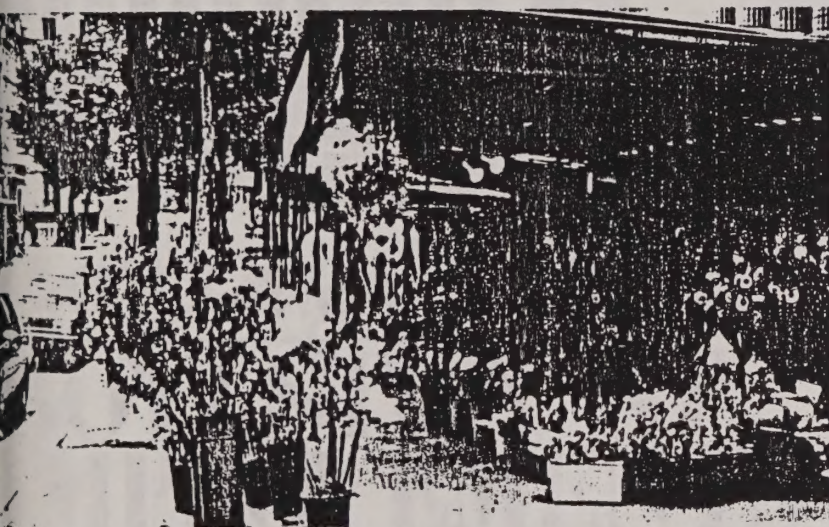
News stand kiosk
Pennsylvania Ave, Washington, D.C.)



News stand kiosk
(Paris)



Cafe kiosk
(Tachereau - Paris)



top - sidewalk flower stand (Copley Square, Boston)
bottom - sidewalk flower market (Paris)

top - sidewalk flower stand (Old Bond St., London)
bottom - sidewalk flower market (Paris)

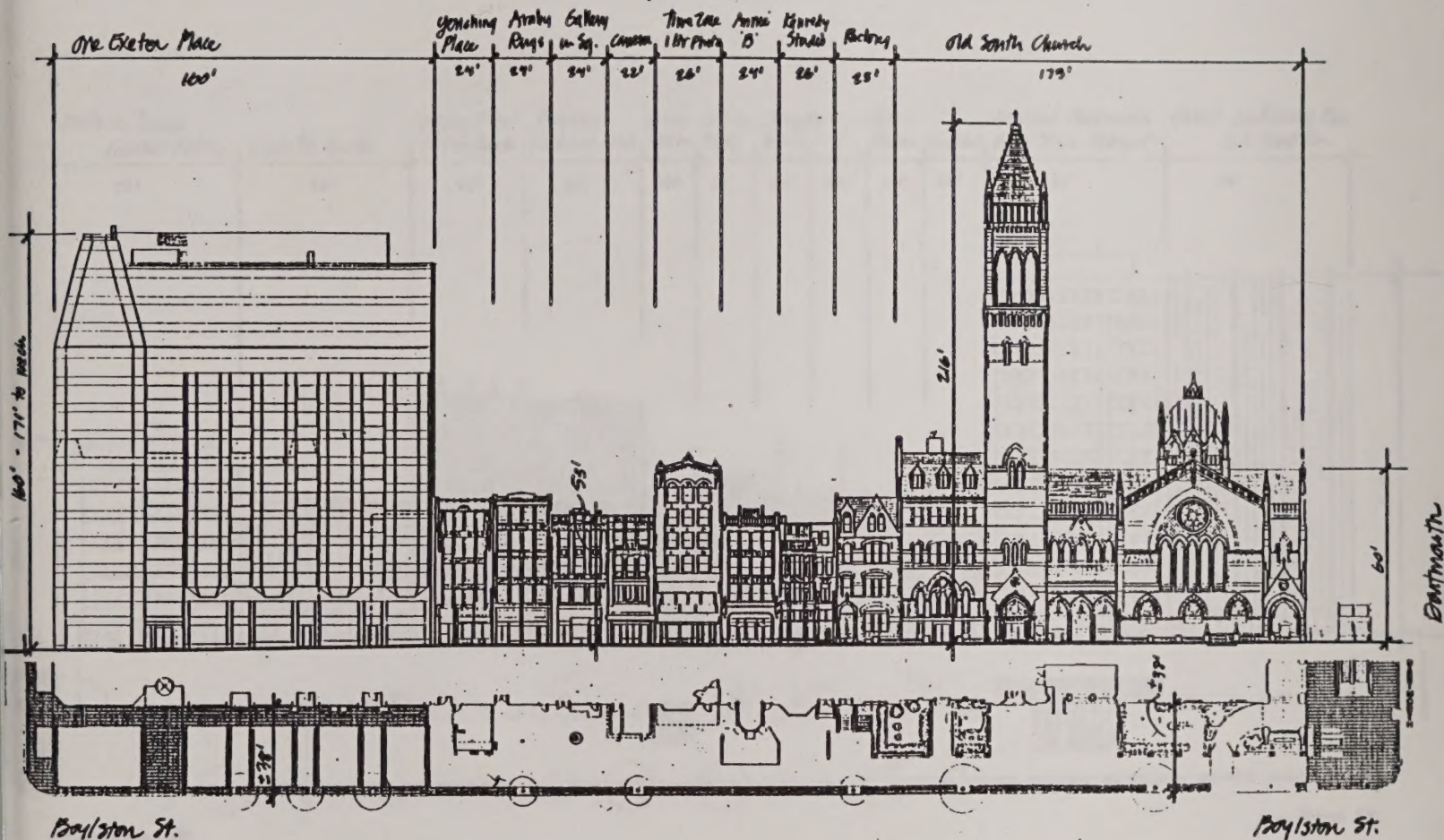
BOYLSTON ST. IMPROVEMENTS STUDY
Early Design Study, Boston, Mass.



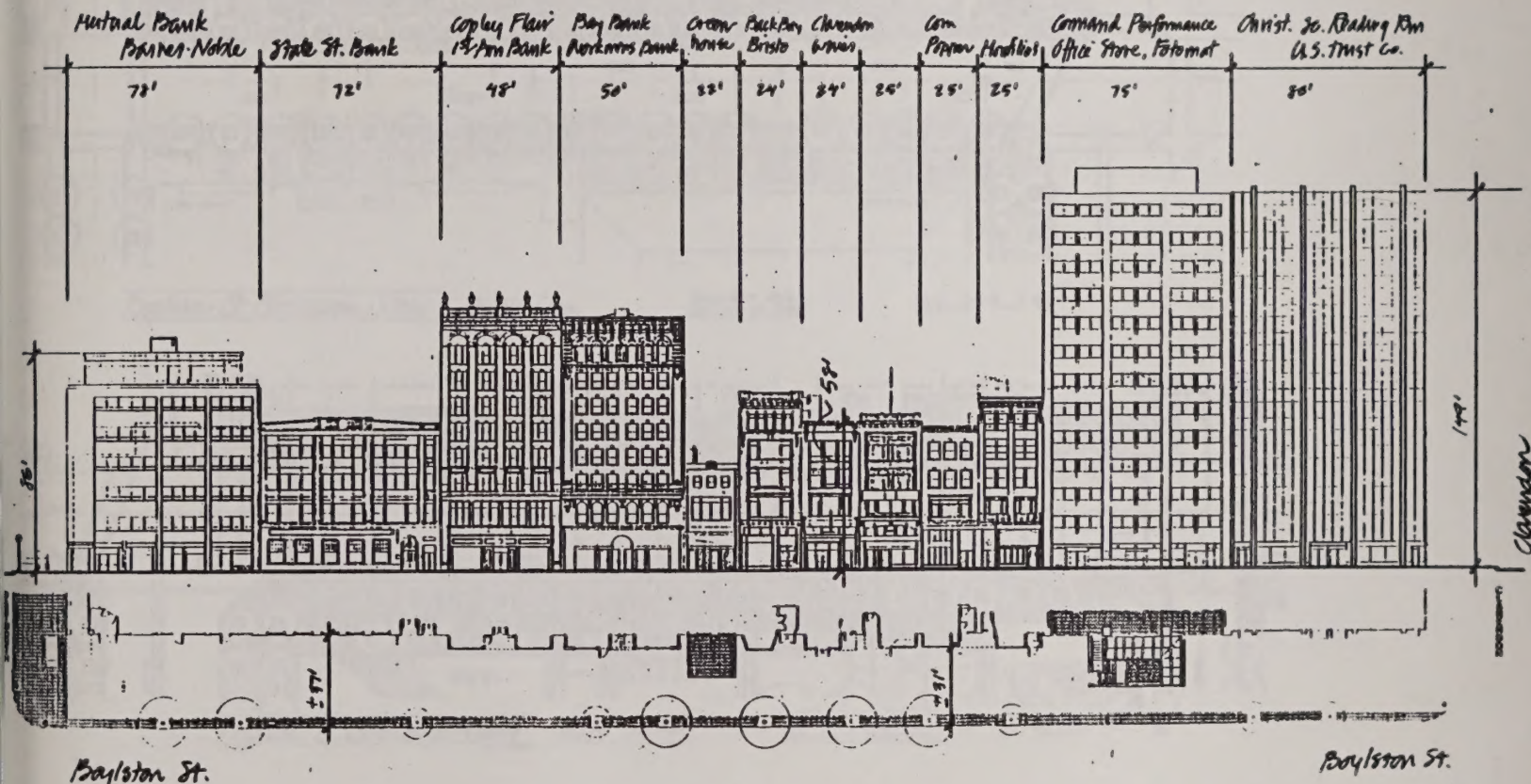
Early Design Studies

BOYLSTON ST. IMPROVEMENTS STUDY

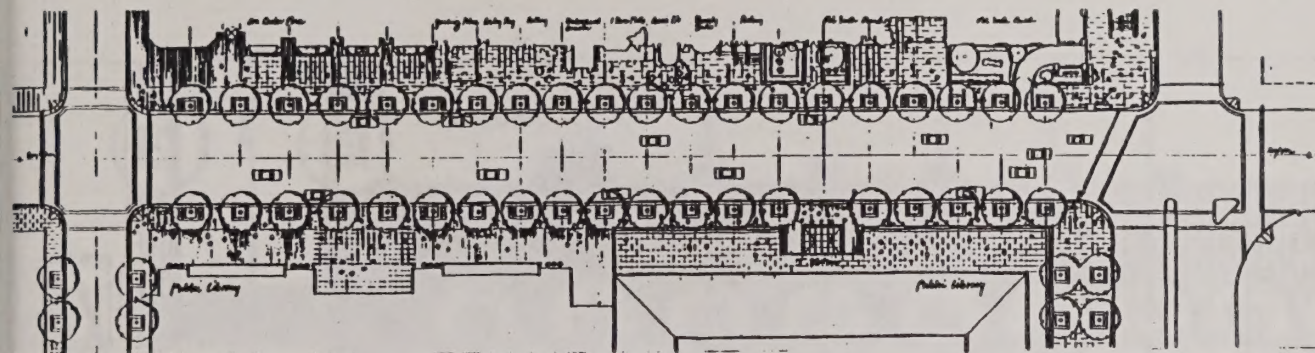
Sample Study Block Base from Exeter to Dartmouth Sts. (1/16"=1'-0" scale plan prepared by the BTRA)



Sample Study Block From Dartmouth to Clarendon Sts. (1/4"=140' scale plan prepared by The BORA)



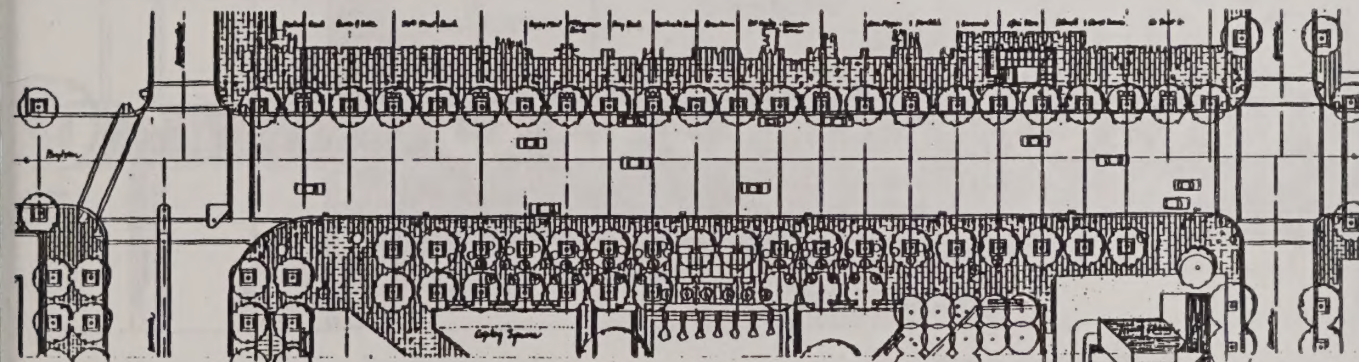
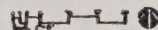
Street Tree Studies · Single Tree Row



Boylston St. Streetscape Study

Single Tree Row

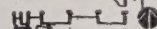
Single Tree Study: Attention to Entrance



Boylston St. Streetscape Study

Single Tree Row

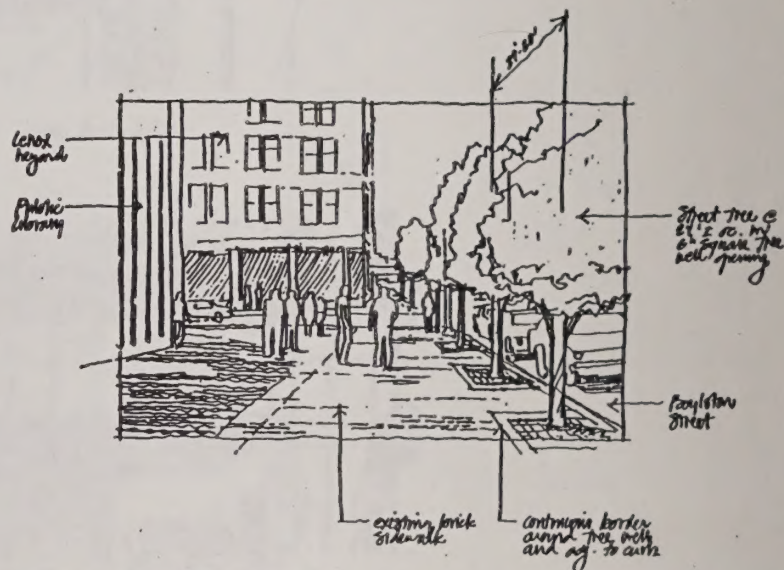
Single Tree Study: Attention to Entrance



[illegible]

Single Tree Row

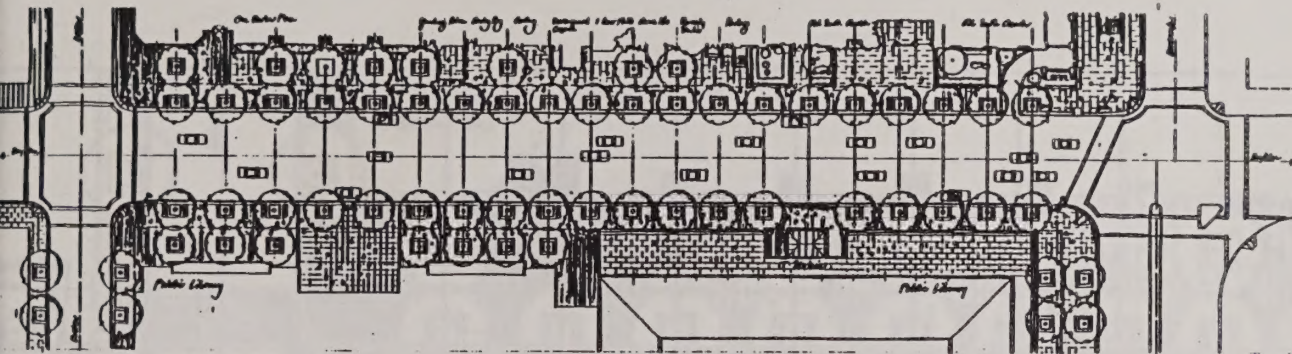
Section Three Bayston Street



Baylston Streetscape Study

Single tree row

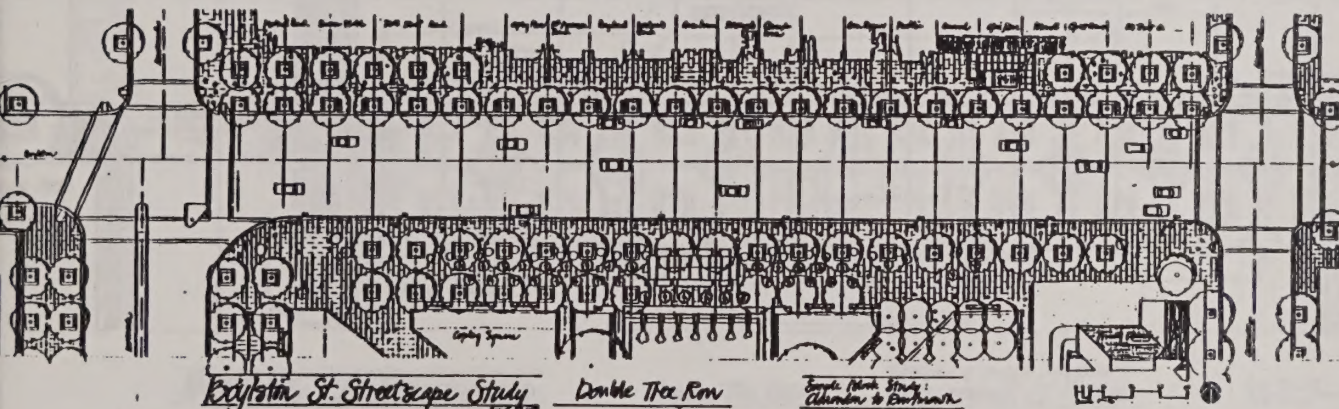
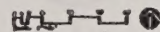
Street Tree Studies - Double Tree Row



Boylston St. Streetscape Study

Double Tree Row

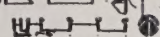
Sample North Study: Northbound to Boston



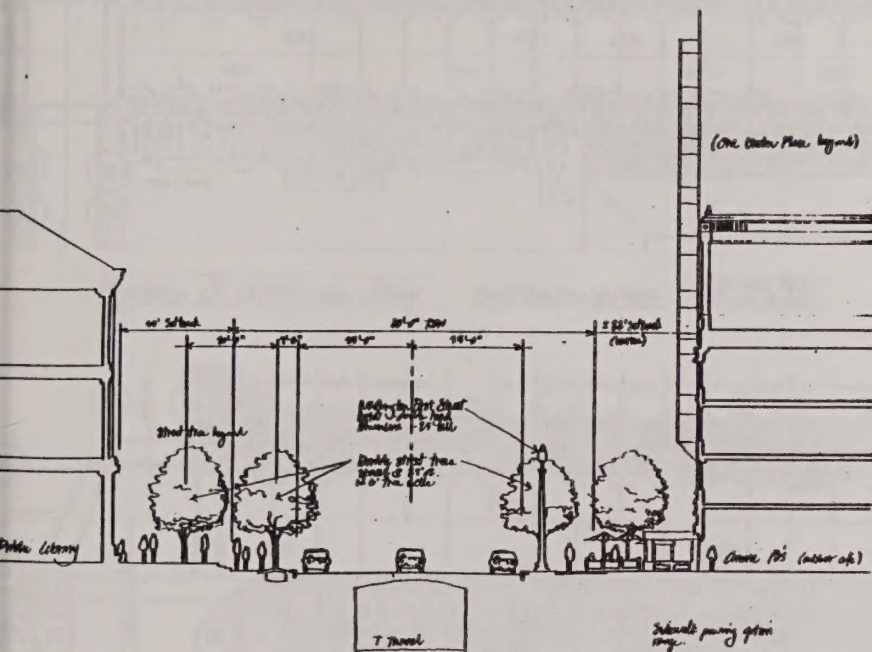
Boylston St. Streetscape Study

Double Tree Row

Sample North Study: Abandon to Boston



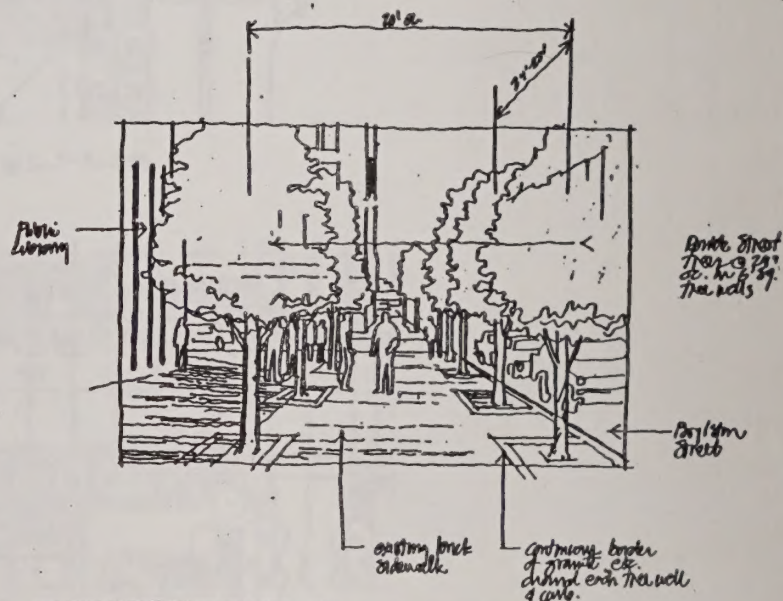
Street Tree Studies - Double Tree Row.



Boylston Streetscape Study
July 1, 1991

Double Tree Row

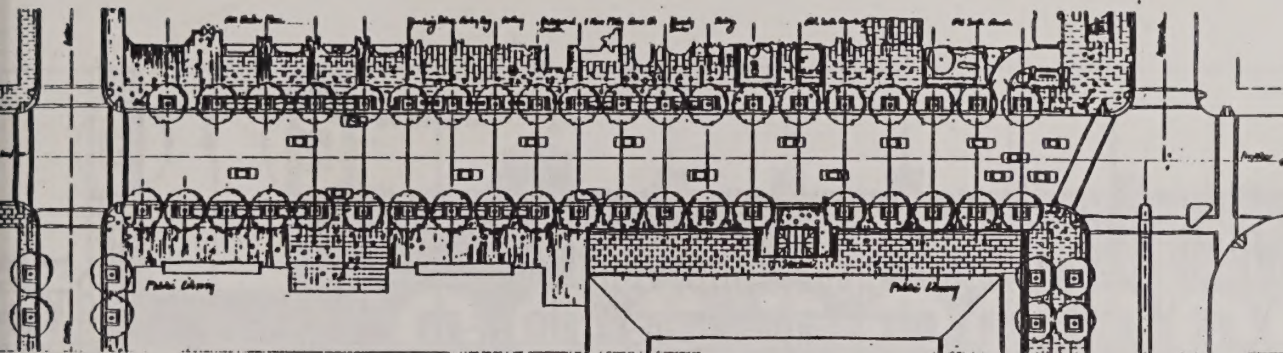
Section from Boylston Street
N.B. 10' x 10'



Boylston Streetscape Study

Double Tree Row

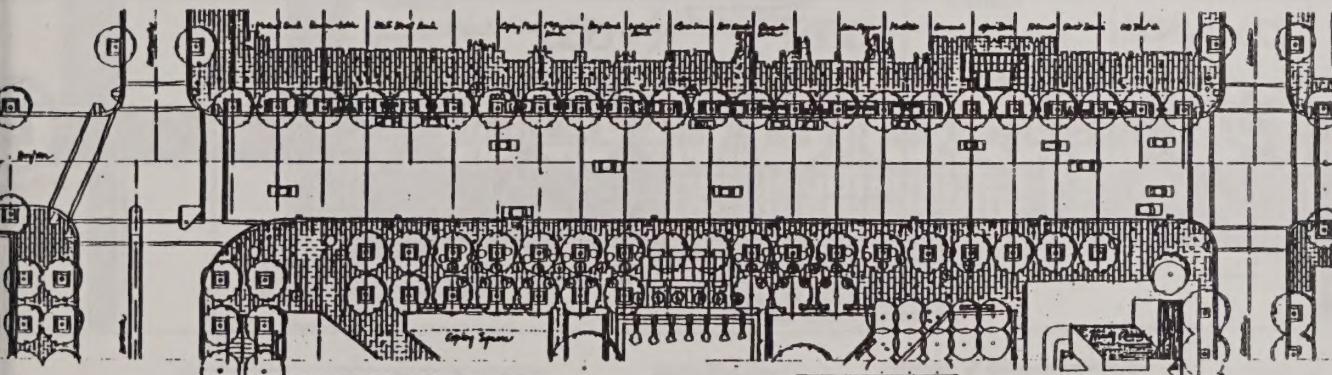
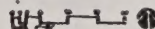
Street Tree Stocker - Single Tree Row w/ Narrow Planter



Boylston St. Streetscape Study

Single Tree Row w/ Planter

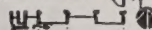
Single Plant Study: Pedestrian to Center



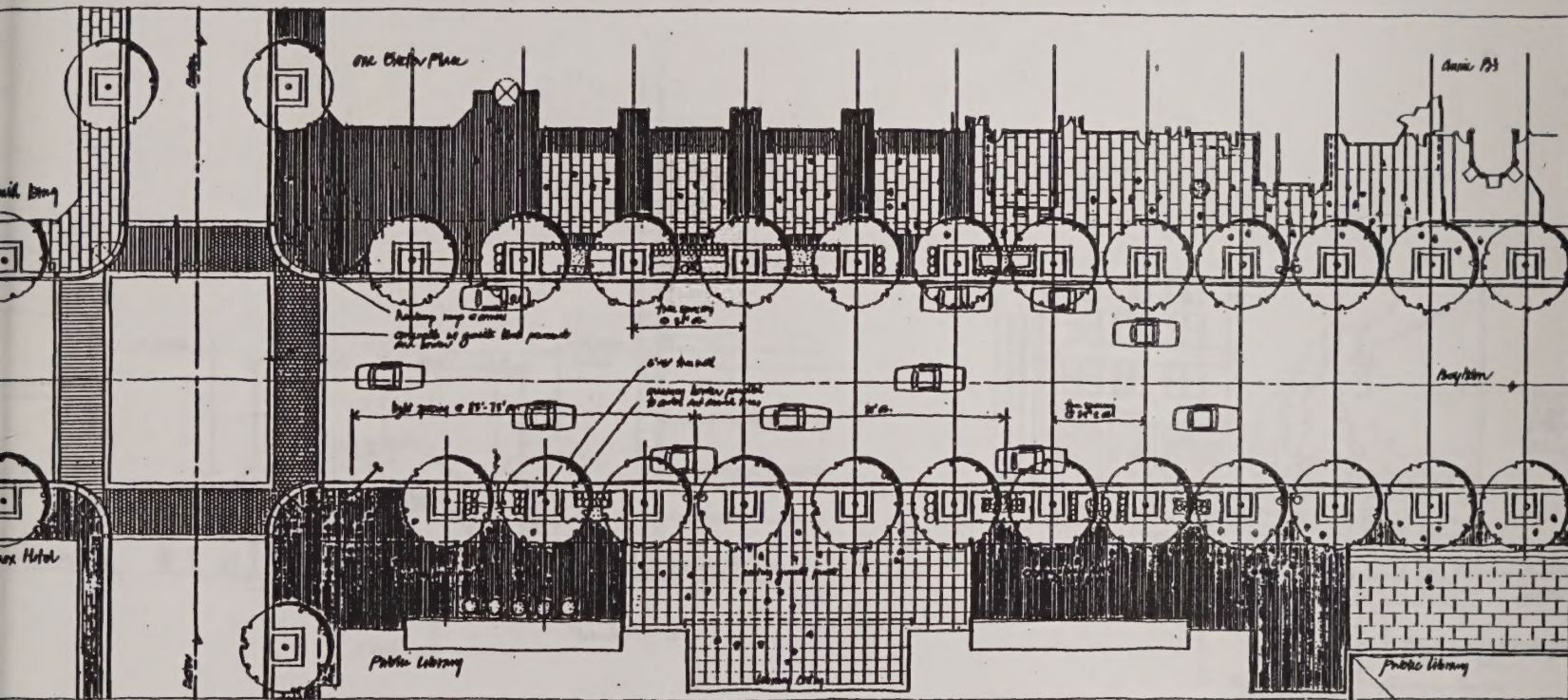
Boylston St. Streetscape Study

Single Tree Row w/ Planter

Single Plant Study: Pedestrian to Center



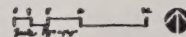
not The Studies. Single Tree Row w/ Narrow Planter



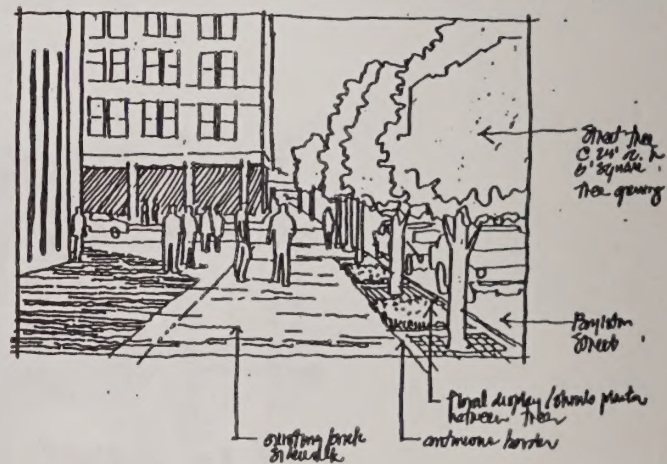
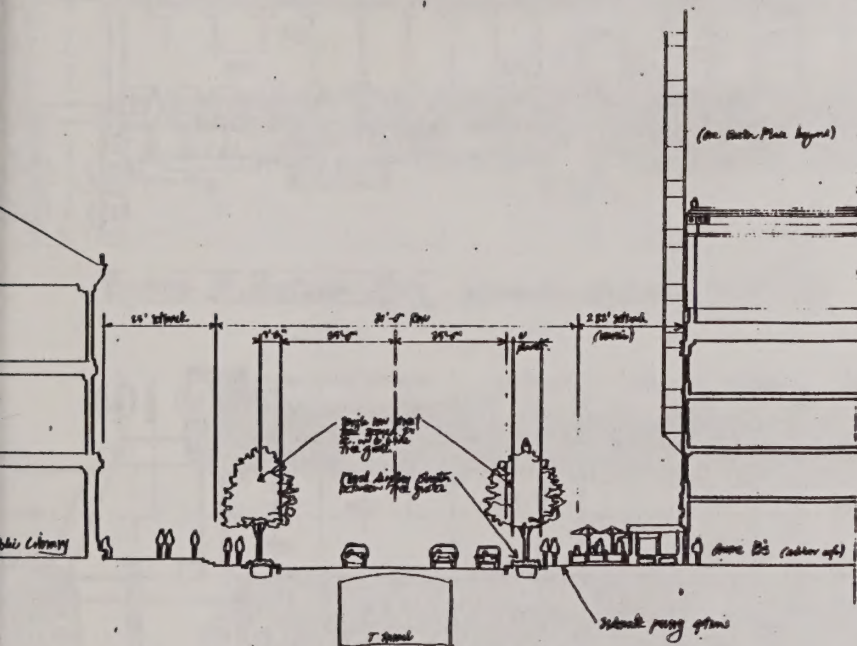
Coylston St. Streetscape
April 12, 1999

Single Tree Row -
Narrow Planter

Intersection of Coylston and Coylston St.
Enlargement @ 1/8" scale



Street Tree Studies: Single Tree Row w/ Narrow Planter.



Boylston Streetscape Study

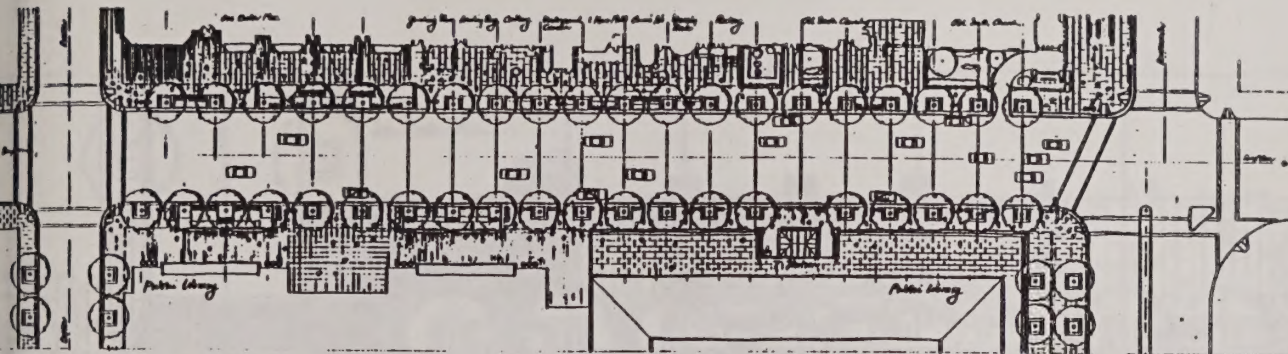
Single Tree Row - Narrow Planter

July 18, 1998

Boylston Streetscape Study

Single tree row w/ narrow planter.

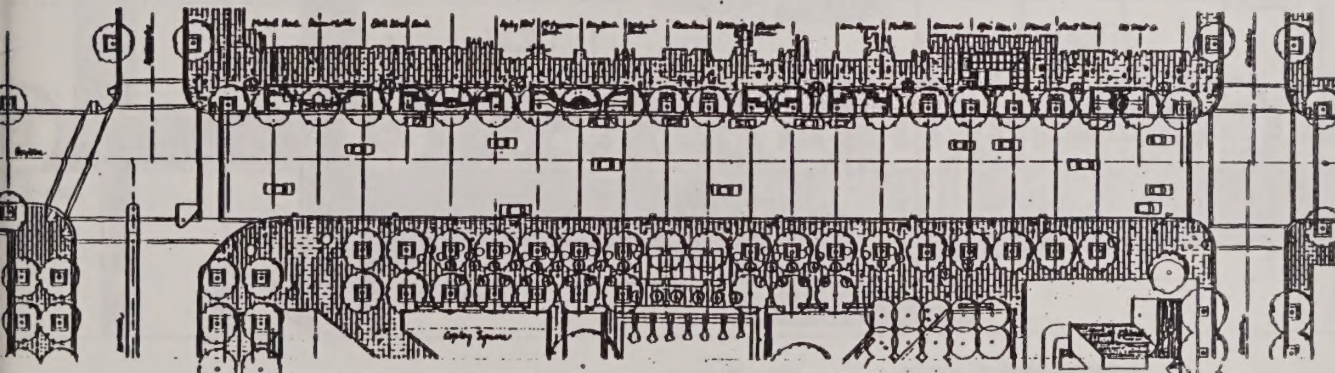
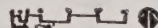
Street Tree Studies: Single Tree Row or Wide Planter



Boylston St. Streetscape Study

Single Tree Row, Wide Planter

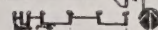
Sample Plan Study: Downtown to Center



Boylston St. Streetscape Study

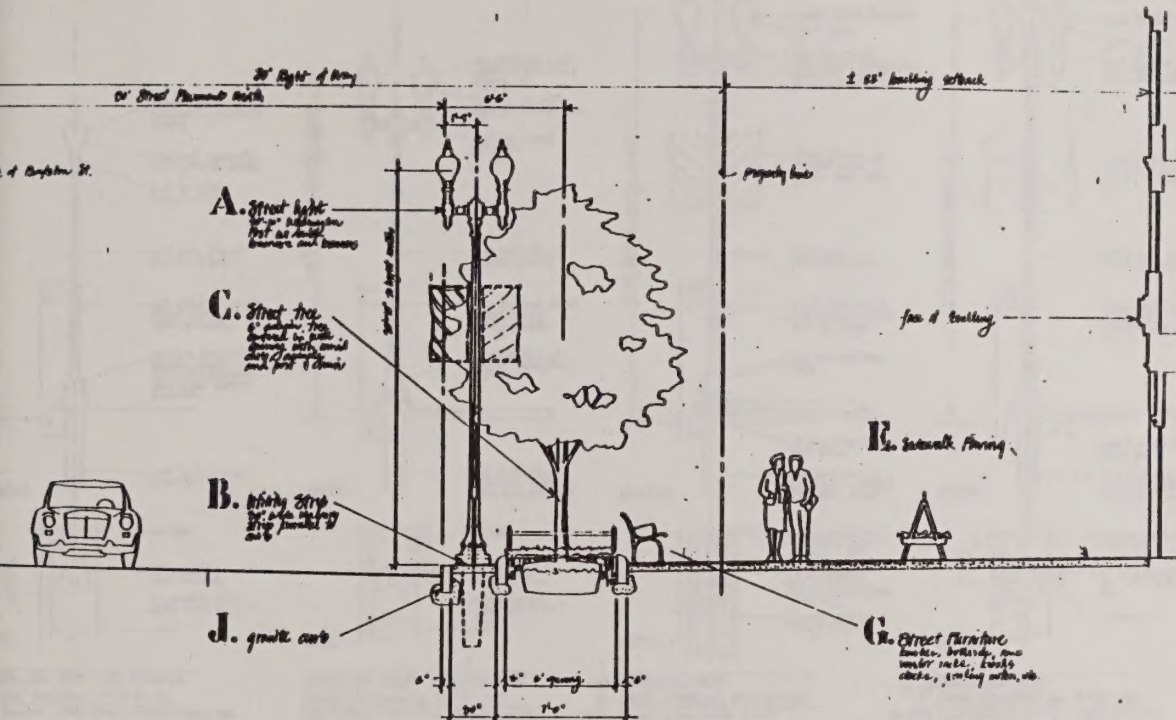
Single Tree Row, Wide Planter

Sample Plan Study: Downtown to Center



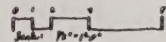
- wide granite border
- says that you can plant

Streetscape Elements Composite



Boylston St. Streetscape

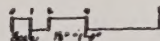
Footwall section:
Streetscape Elements Detail Key



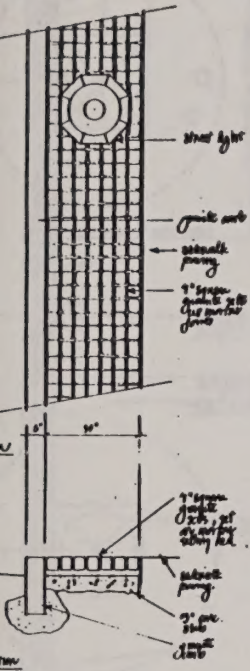
[illegible]

Baylton St. Streetscape

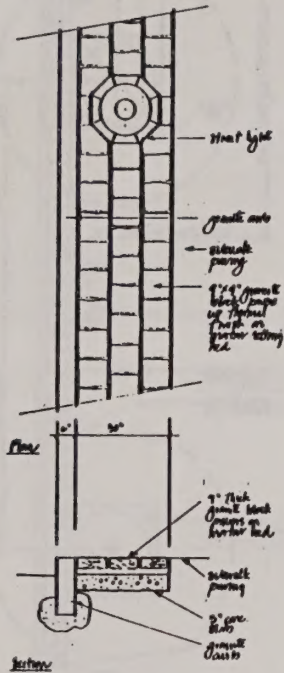
A. Street Lighting



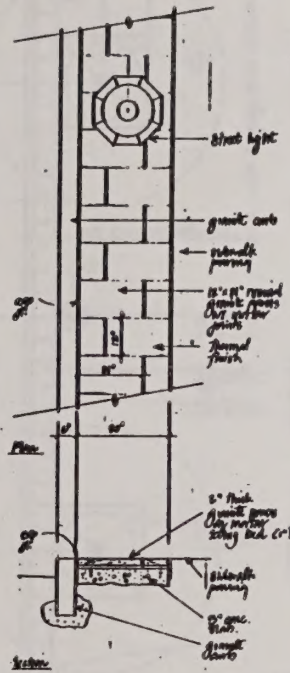
Continuity Strip Studies



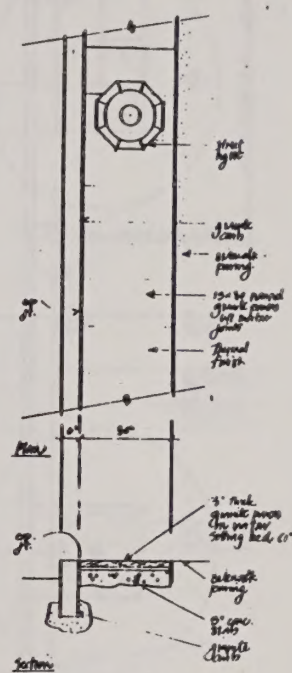
Granite curb: 9' x 9'



Granite curb: 9' x 9'



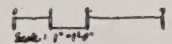
Granite curb: 9' x 9'



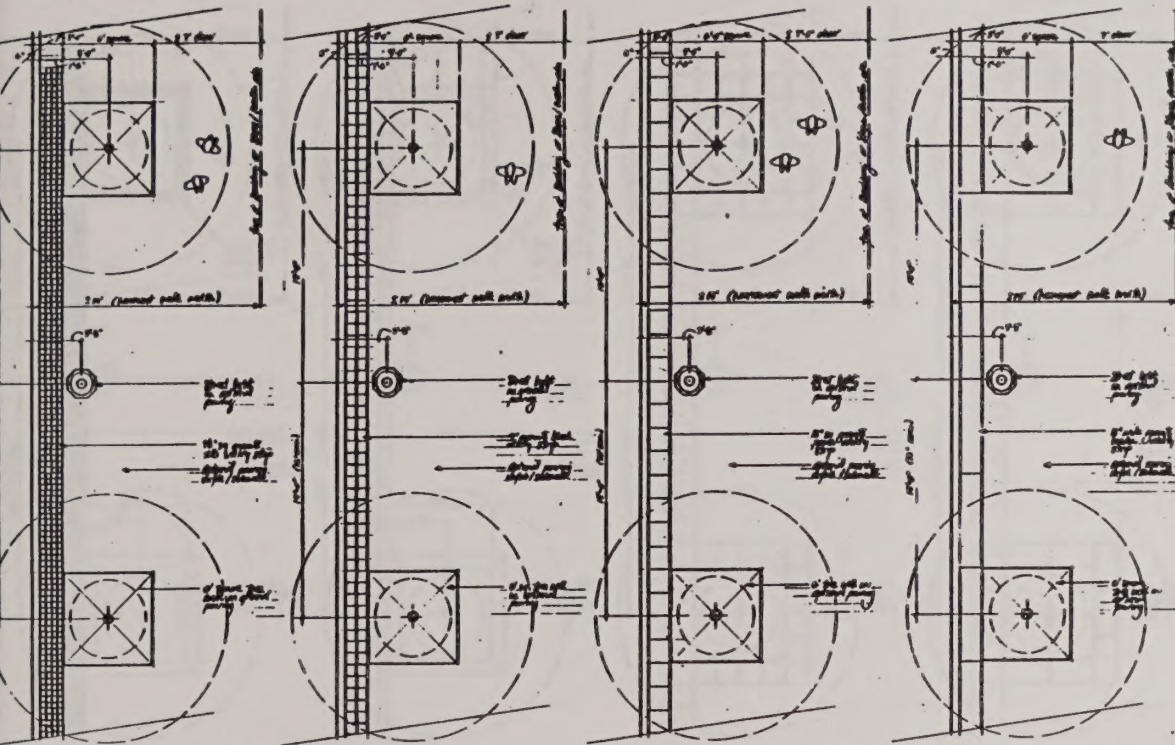
Granite curb: 9' x 9'

Baylston St. Streetscape

B. Utility Strip



Continuity Strip Studies



1. Continuity strip: 10' (existing) + 10' (new) = 20' total width

2. Continuity strip: 10' (existing) + 10' (new) = 20' total width

3. Continuity strip: 10' (existing) + 10' (new) = 20' total width

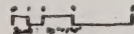
4. Continuity strip: 10' (existing) + 10' (new) = 20' total width

Boylston St. Streetscape

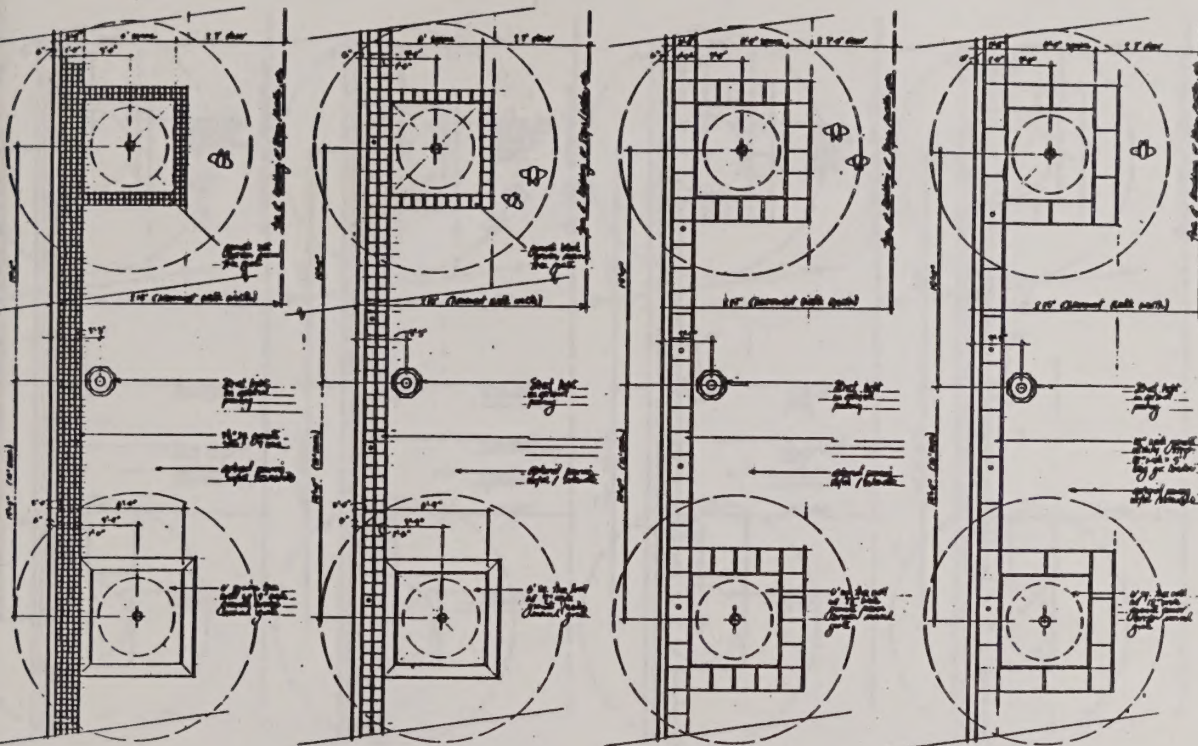
B.

Memory Strip - No tree end border:

Utility Strip Studies



Continuity Strip Studies



1. 18" utility strip: 18" wide strip

2. 12" utility strip: 12" wide strip

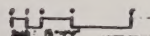
3. 10" utility strip: 10" wide strip

4. 8" utility strip: 8" wide strip

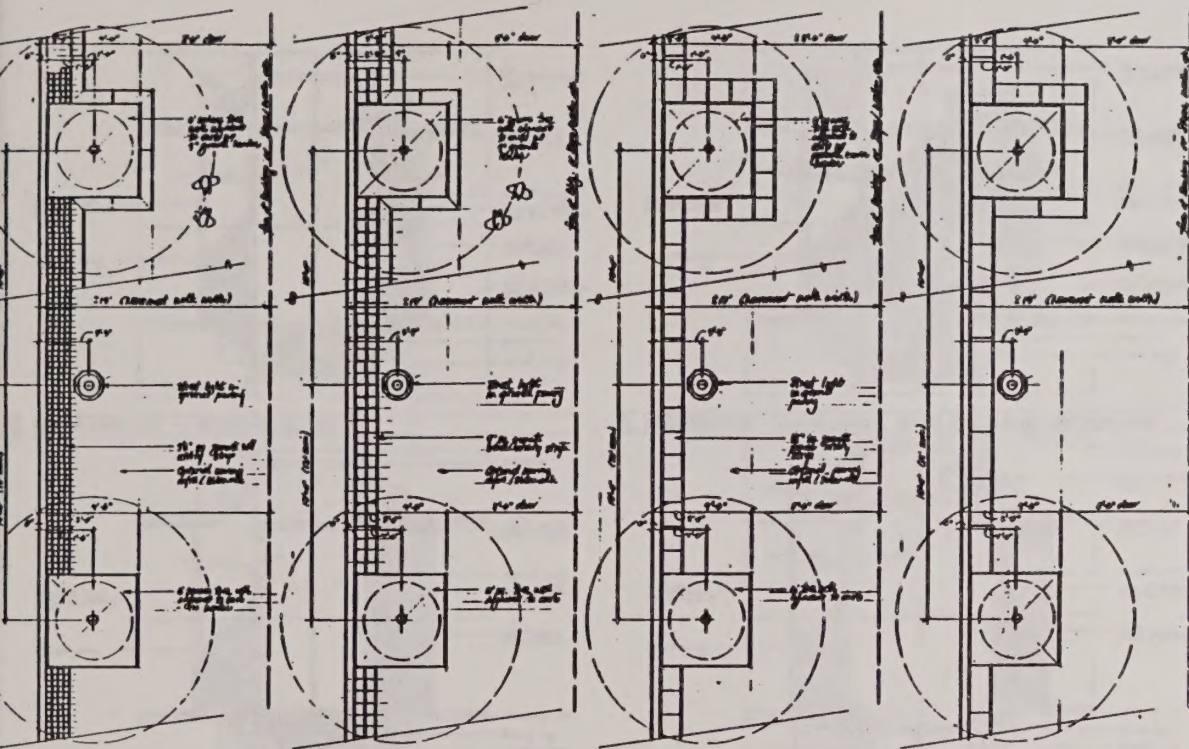
Boylston St. Streetscape

B.

Utility Strip Studies



Continuity Strip Studies



1. Tree @ Curb: 1" to 2" thick

2. Tree @ Curb: 1" to 2" thick

3. Tree @ Curb: 1" to 2" thick

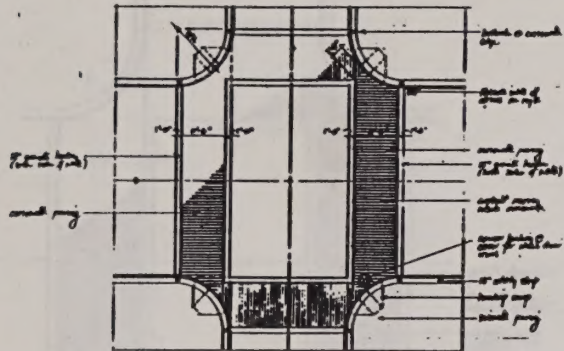
4. Tree @ Curb: 1" to 2" thick

Oylston St. Streetscape

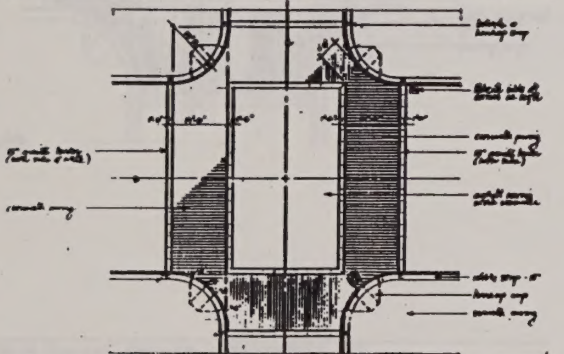
B. Utility Strip Studies



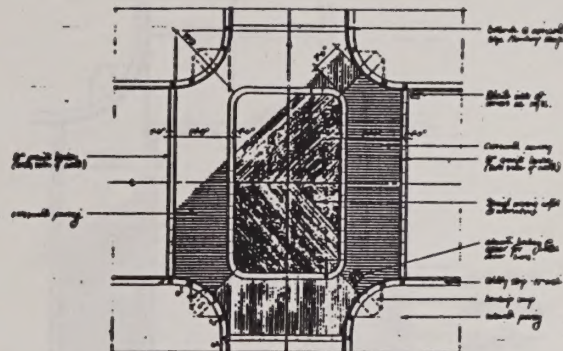
Crosswalk Studies



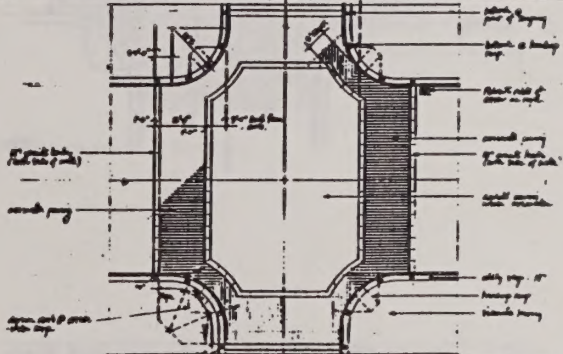
1. Narrow Crosswalk - 90° corners / square



2. Wide Crosswalk - 90° corners / square



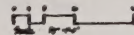
3. Wide Crosswalk - curved corners, special pavement @ intersection with



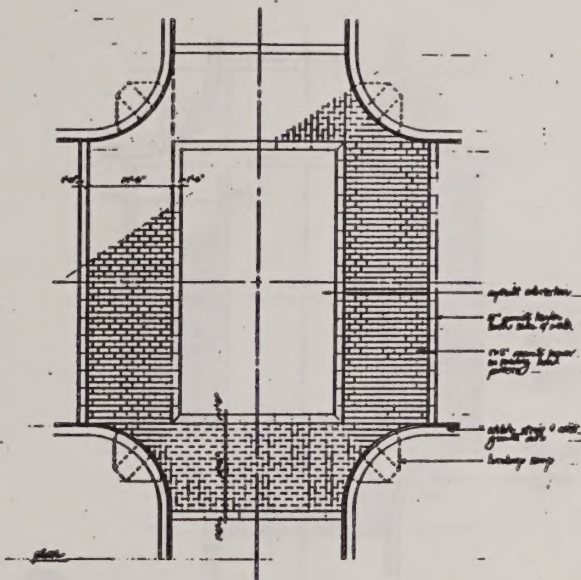
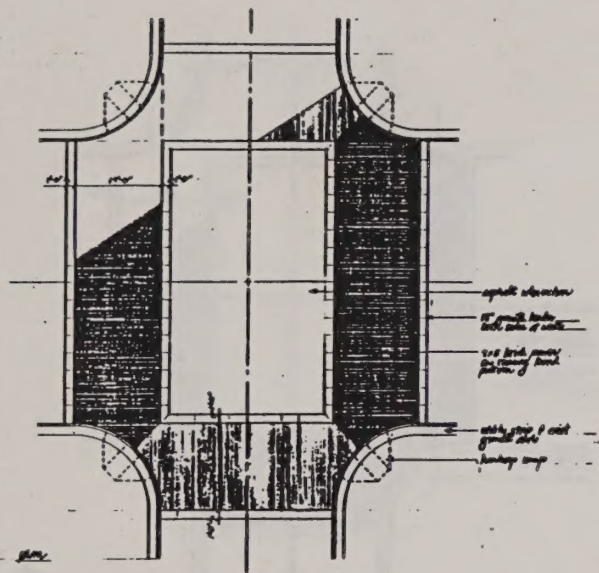
4. Parallel Park Crosswalks - round corners

Boylston St. Streetscape

D. Crosswalk Configurations:
Crosswalks and Handicap Ramps



Crosswalk Studies

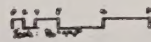


1. Brick Pavement Crosswalk: 12 inch brick quarter width of crosswalk

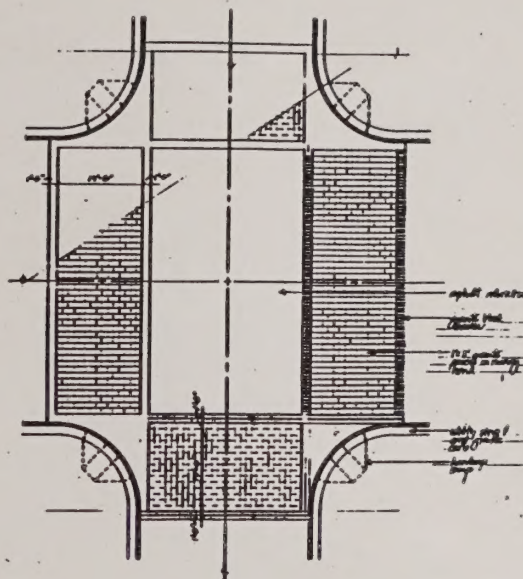
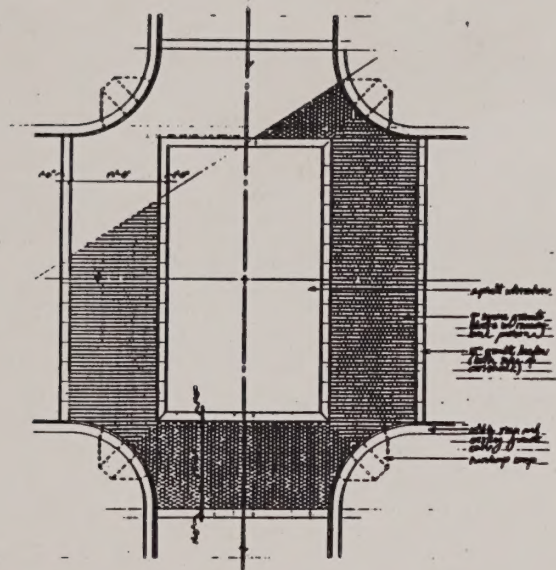
2. Granite Paver Crosswalk: 12 inch granite quarter width of crosswalk

Boylston St. Streetscape

D. Crosswalk Materials: Crosswalks and Handicap Ramp



Crosswalk Studies



3. Granite Block Pattern: 1/2" granite pavers, 12" x 12" laid in pattern

4. Combination of Granite Pavers & Blocks: 1/2" granite pavers, 12" x 12" laid in pattern

Boylston St. Streetscape

September 22, 1992

D.

Crosswalk Materials:

Crosswalks and Handicap Ramps

